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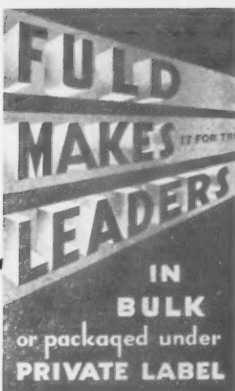
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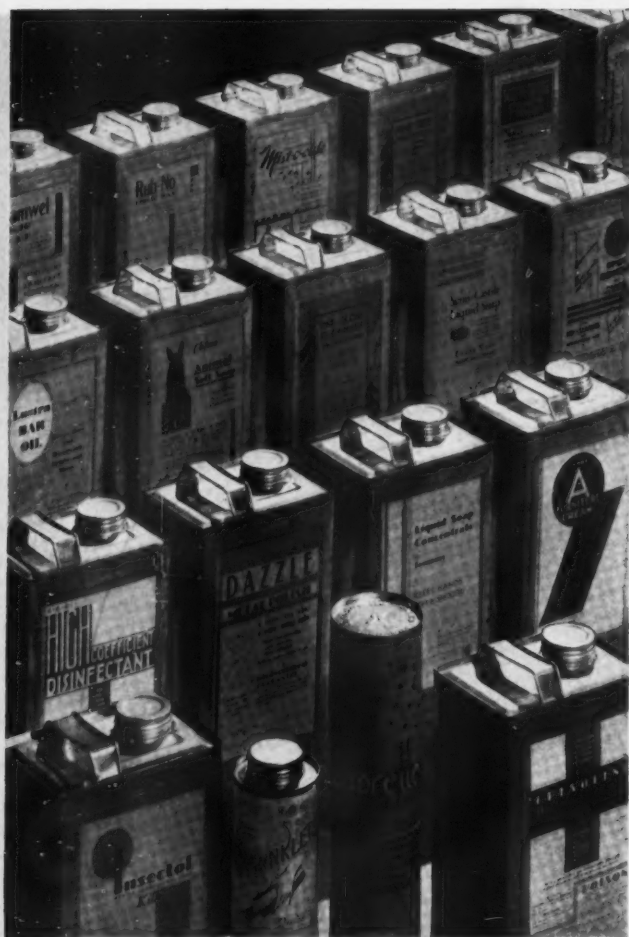
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NAME

ADDRESS

SOAP

Volume XII
Number 8

August, 1936



SANITARY Products Section, which is included as a department of every issue of SOAP, begins on page 75. Production Section begins on page 63.

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Published monthly by

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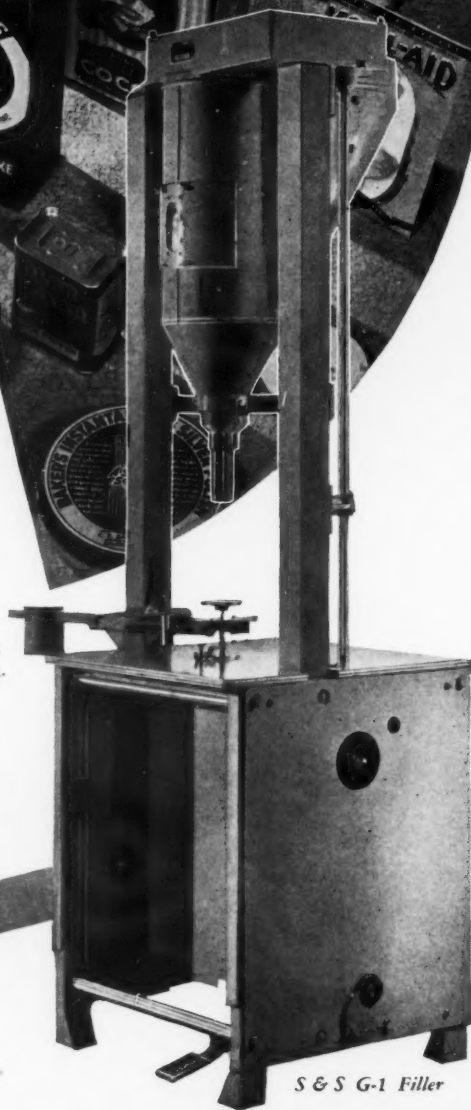
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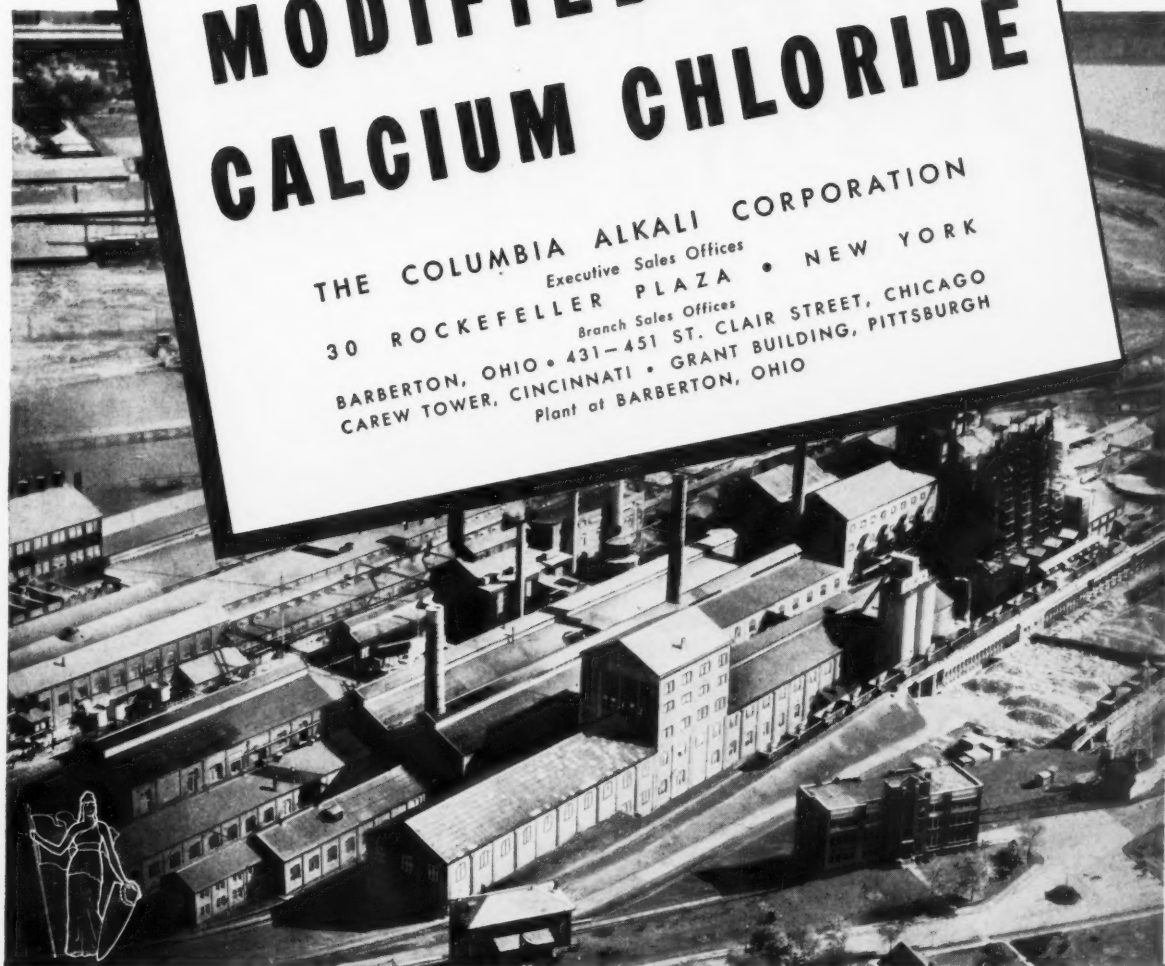
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AERIAL VIEW OF PLANT AT BARBERTON, OHIO



A Whole Anchor Family of C.T. Caps



YOUNG IDEAS crowd fast on the heels of the established and traditional. Methods of packaging today make demands on closures unknown a few years ago. Here's a perfect example of how Anchor keeps abreast, in fact ahead, of the needs of packagers.

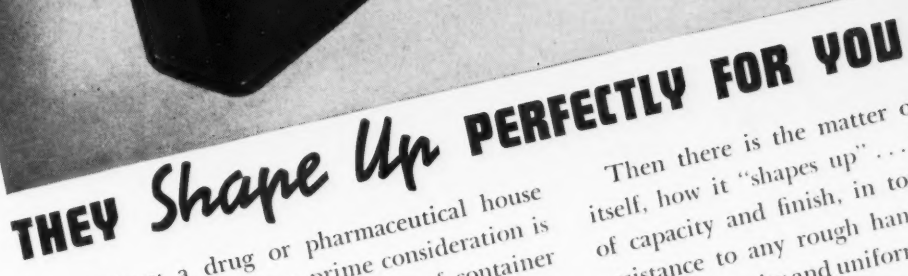
The Anchor C. T. Cap has been a well-known, popular style for many years. Of course, during that time many improvements have been incorporated . . . but the point is that from this basic design there has been developed an entire family of new and modern offspring. All use the continuous thread principle but in their appearance and adaptation to widely divergent package situations, they vary greatly when used in drug, food and other industries.

Anchor offers a wide selection of C. T. styles as illustrated above: Bottle Caps, supplied in either tin or aluminum; C. T. Caps for jars; 2-piece and Gasket Lined C. T. Caps for foods packed under vacuum. There are likewise C. T. Caps without knurling (NKCT) for both jars

and bottles, in either tin or aluminum; Shell-back Caps in a number of styles and with either tin or aluminum inners. Then there are the Deep Screw Caps for jars; also available in either 2-piece or gasket-lined styles for vacuum packed products.

This large family of Anchor C. T. Caps may be had in a number of finishes—gold lacquered, lacquered or coated in any desired solid colors, or lithographed with your own special design . . . and, of course, are supplied with a variety of liners to suit your particular sealing requirements. Note, too, that while this entire line represents but one of Anchor's general types of closures . . . it is proof positive of the completeness of the Anchor line and the thoroughness with which Anchor is equipped to meet all modern packaging problems. ANCHOR CAP & CLOSURE CORPORATION, Long Island City, New York; Toronto, Canada. Branch offices in all principal cities.

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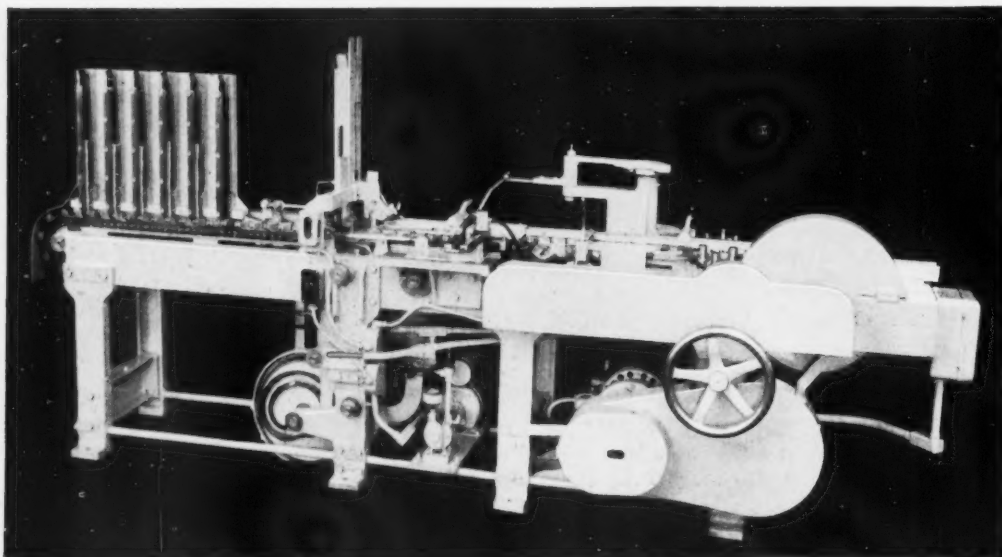
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SOAP

As the Editor Sees It

THE extra dividend recently declared by one of the large American soap companies may be the first move in the soap industry to reduce surpluses, and to avoid taxes thereon, by increasing payments to stockholders. This payment comes at a time, however, when profits from current soap manufacturing operations as a whole are not reported to be especially good,—and when the outlook as the result of anticipated advances in oil and fat costs, is not as bright as it might be. Of course, the company in question has long been a large manufacturer of edible fatty products, and is reputed to have made a greater profit from these operations than from soap manufacture. This latter still makes tenable the position that a profitless era in soap manufacture is upon us unless something is done about soap prices.



THE object of the Robinson-Patman amendment to the Clayton Anti-Trust Act, passed at the late lamented session of Congress, is unquestionably to prevent manufacturers from giving special discounts to large retail chains, whether they be grocery, drug, hardware, or what not, so that these chains in turn can no longer sharply undersell the independent retailer. Those who urged this legislation are the wholesalers and smaller retailers, principally in the grocery field, who have found chain store competition just about overpowering.

The Robinson-Patman amendment, in short,

is supposed to prohibit discrimination in price between buyers of equal quantities. Its enforcement Congress has left to the tender mercies of the Federal Trade Commission. What a manufacturer specifically may or may not do under the new law, has apparently been left to the imagination because few if any seem to know exactly what it is all about. Eventually the Supreme Court, that body of nine overworked gentlemen in Washington, will have to tell them anyway. But in the meantime, manufacturers are going to have their own fun with this latest legislative puzzle.



UNDER the Robinson-Patman amendment, there will still be price competition and no price fixing, says one of our contemporaries, but the law *does* put an end to bad price practices which have been included in the term, "competition." In doing this, the law puts a premium on "selling as distinguished from bidding for orders." (We believe that our contemporary means salesmanship instead of selling.) Nevertheless, the day of the salesman "who knows valid reasons why his goods should be bought" has apparently arrived. We do not quite see why, but if our experienced and conservative contemporary says that it has,—then we guess that it has. Nevertheless, we wonder what the new school of salesmanship is going to tell its followers to do when the other fellow bobs up with all the same valid sales reasons

and *also* offers to "shave a nickel off the price." Maybe somebody should write the Federal Trade Commission about this.



AT the last session of Congress, it seems, the ten per cent luxury tax on jewelry was removed. However, the tax on cosmetics remains, and because of this, cosmetic manufacturers generally are reported slightly warm under the collar. And the five per cent tax on toilet soap is still in effect. But the soapers do not seem to be as indignant as the cosmetic people. As far as we can find out, the jewelry fellows went to Washington and raised a first-rate rumpus. Whether they scared Congress into taking off the luxury tax or convinced them that jewelry is a vital necessity at the present tempo of American life, remains a secret locked in the hearts of our legislators. And the cosmetic makers and the soapers are beginning to conclude that their yells for removal of the tax were neither loud enough nor of sufficient duration. If we did not know otherwise, we would be inclined to believe that the majority leaders of Congress had a grudge against anybody who makes soap.



NOT only are manufacturers making a serious mistake in constantly increasing the size of packages sold through the five-and-ten-cent chains, but the stores themselves are indirectly injuring their business by handling these larger and ever larger packages. This is the view of a manufacturer who for many years has sold a great deal of merchandise to the ten-cent stores, but who has practically dropped out of the field during the past year. He holds that in order to break in on this chain business, manufacturers offer larger and ever larger packages for the money. Where a few years back, two and three ounce sizes were common for shampoos, disinfectants, hair tonic, wave set, and the like, these sizes have been doubled and even tripled in the scramble for business. To a more limited extent, the same has been true in certain soaps, mechanic's hand paste, and similar items.

The manufacturer in question states that little is left in the way of profit unless a sub-standard quality is supplied. He points out furthermore that the larger sizes mean that the customer will

not return to the store as frequently as heretofore, particularly when this enlarged size procedure is repeated on hundreds of items throughout the store. This is bound to have a direct effect on dollar turnover, not to mention its effect in independent retail channels. Also the tendency to supply lower quality products must eventually interfere with repeat business.

From what we have observed, this manufacturer is correct. It appears that the ten-cent chains have reached the point where they are giving too much for the money. Competition, they tell us. May be it is competition, but it also looks very much like all-around faulty merchandising to us. And the manufacturers who choose to fight for this business of questionable profits, will probably find before they are through that they have started something which they cannot finish.



FROM a "research foundation" of Minneapolis comes a letter which states that "the Foundation is in control of a process involving an electric ray . . . which ray, produced through a basically patented machine, has been found to increase the efficiency of soap from sixteen per cent upwards." The communication goes on to say that after some years of research they are ready to prove that the ray produced by their machine "brings about a remarkable chemical change in all fats and oils, allowing these to be broken up in an atomizing effect and permitting the oils to become dissolved more readily in water with the working strength of soap below the water line."

Will wonders ever cease? Imagine boosting the efficiency of soap sixteen per cent just with an electric ray. We wonder if this is done in the kettle or by the grocer just before he sells the soap to Mrs. Glupp to do her weekly wash. And then comes the remarkable chemical change in fats and oils. We must admit that we are full of wonderment, but slightly short on understanding of this new machine. That we suspect scientific hocus-pocus is probably due to our ignorance. Whereas we should receive this announcement with a hushed "Ain't science wonderful?"—we find ourselves a trifle skeptical to say the least. All of which shows the drawback of being from Missouri when it comes to appreciating the scientific wonders of the world.



Minimizing of soap scrap is one of the results of proper framing in the cold process.

Cold-Made Soaps

By Dr. E. G. Thomssen

J. R. Watkins Co.

IF the various methods of making soap, the cold process is the simplest. On the other hand, there are pitfalls in this procedure, so that, unless it is conducted in a proper manner, poor quality finished products are very apt to result. In soaps of the cold-made type, the difficulty of incomplete saponification always comes to the fore. All due precautions must also be taken in the selection of the raw materials and their handling. The caustic alkali which is used should be as free from the heavy metals as can be obtained. Care should also be taken that fresh solutions of lye are used to keep down the sodium carbonate content and that they are well agitated, preferably by a mechanical agitator, before being used. A safe procedure is to dissolve the caustic soda in one tank and reduce the solution to the proper density in a second tank. In some plants the lye in the second tank is covered with about a half inch film of mineral oil. In carrying out the dilutions a long-

stemmed hydrometer, calibrated in tenth of degrees Baume, should be employed because a hydrometer of this construction is more accurate than the short-stemmed ones. The hydrometers should be read when lyes are at room temperature. The water which is used should be clean, softened water.

The fats and oils should be of a higher grade than those which are used in making full-boiled soaps. It is quite important that their free fatty acid content does not exceed 3 to 5 per cent depending upon the fat or oil, although a smaller percentage than this is advisable for producing the better quality soaps. In storing the fats and oils, it is good practice to use small capacity tanks, so that just enough can be molten from time to time to take care of a single day's run, rather than heating up large excess quantities each day and in this way causing discoloration and a more rapid development of free fatty acids. Then too, by storing in smaller units, the mass



The cold-process charge, after emulsification in the crutcher, is dropped into frames where the saponification goes to completion in about twenty-four hours. Water tightness of the frames in this process is imperative.

cools more rapidly and facilitates a better control of the temperature. Tanks holding approximately 1,000 gallons, cone-shaped at the bottom and equipped with closed and open steam coils are satisfactory. If very white, pure soaps are required, these tanks may be constructed of a fatty acid resistant metal or be glass lined.

The advantages of making soap by the cold-process are that it is more economical because less equipment and time are required, the turnover of the raw material is more rapid, less steam is used, and less expensive labor is necessary to carry out the soap-making procedure. The disadvantages are that a higher-grade raw material is required, the glycerine cannot be recovered, incomplete saponification often results in discolored soaps, the scrap soap must be got rid of and soaps made by the process are usually more irritating to the skin of the average user.

In order to manufacture cold-made soap, the necessary equipment consists of properly-constructed storage tanks such as we have already mentioned, hydrometers, scales, cutters, long stem thermometers, frames, a slabber, a cutting table and soap dies and a press.

Various types of soda and potash soaps are made by the cold-made process, but most commonly olive oil soaps and cold-made coconut oil soaps are produced. It is customary in making these soaps to use either a slight excess of lye beyond that required to saponify the oil or to use an excess of oil as high as 5 to 10 per cent. The latter is particularly true in the case of coconut oil soaps where this excess of oil gives the smoothness and translucency desired in this soap. Other soaps besides olive oil, castile and coconut oil soaps are sometimes made but this is not common practice. Owing to the fact that castile soap has been so generally made by the cold process, it has become customary to designate these soaps, whether made from olive oil or not, as castile soaps. This custom led to considerable dispute in the courts between the Federal Trade Commission and the soap manufacturers several years ago when the F.T.C. attempted to limit the term "castile" to soaps made from 100 per cent olive oil. The attempt by the F.T.C., however, was finally disallowed after lengthy litigation. Castile soaps need not necessarily be limited, therefore, to cold-made soaps in which the charge is all olive oil.

In the manufacture of cold-made soaps, the question of perfume, color and preservatives is more important than with the milled soaps. The perfume particularly, if a white product is desired, must be of a type which does not discolor with age or deteriorate in the presence of strong alkali and heat. Many cold-made soaps of the almond odor type, for example, have not proven successful because of this fact. The color, too, must be alkali fast and withstand comparatively high heat without changing its characteristics.

The question of preservatives or anti-oxidants has had much attention in cold-made soaps. Various anti-oxidants have been suggested as being valuable but sodium hyposulfite solution has been found to be as effective as any

preservative which can be added. In the case of castile soap and also with coconut oil soaps or other cold-made soaps, 1 per cent sodium chloride is efficacious in preserving the color and appearance of the finished product. The disadvantage of salt, however, is that it makes the soap brittle. In cases where castile soap is to be employed for medicinal purposes, salt is much to be preferred to a sodium hyposulfite.

IN order to carry out the procedure for making a cold soap, we will first illustrate with a concrete example the various steps pursued in producing a cold-made coconut oil soap, following the procedure from the saponification in the crutcher to the pressing of the finished bars.

Either of the following formulas are adaptable to a cold-made coconut oil soap:

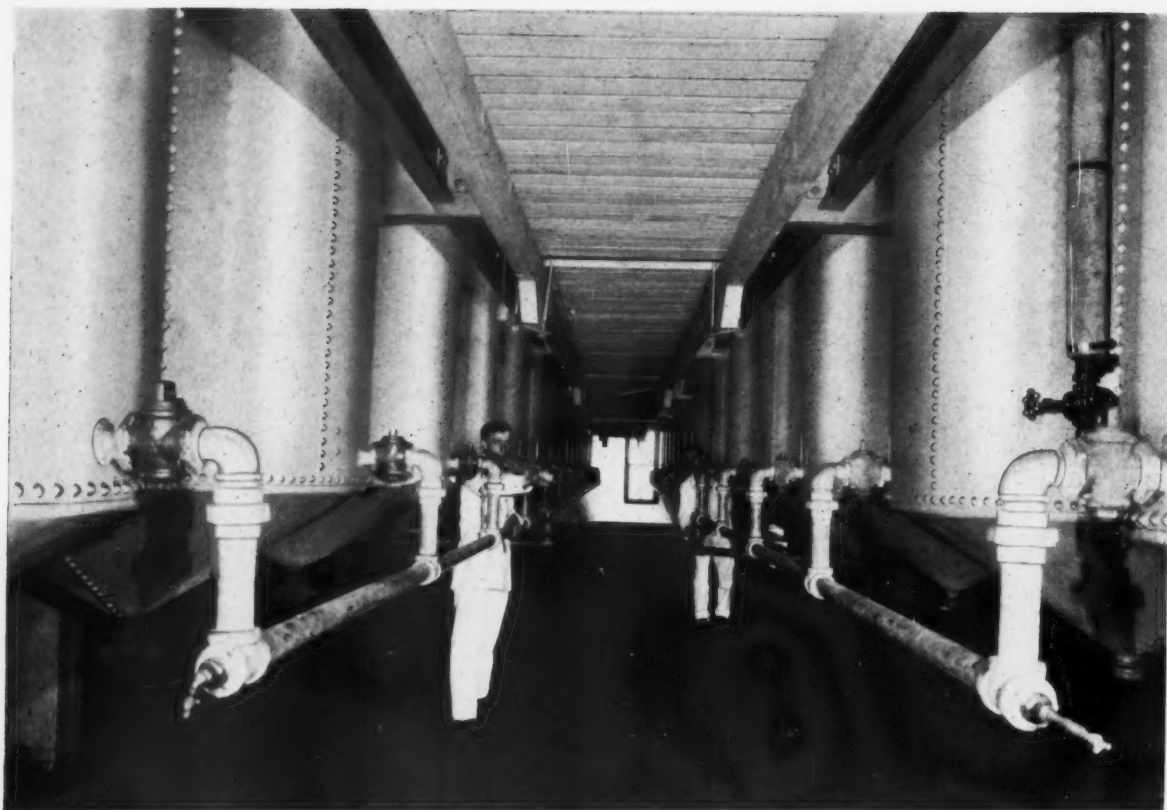
| I. | |
|------------------------------|----------|
| Coconut Oil, Cochín..... | 700 lbs. |
| Caustic Soda Lye 36° B. | 400 lbs. |
| Water | 20 lbs. |
| Sodium Hyposulfite | 5 lbs. |
| Perfume | 4 lbs. |

| II. | |
|------------------------------|----------|
| Coconut Oil | 700 lbs. |
| Caustic Soda Lye 36° B. | 429 lbs. |
| Water | 16 lbs. |
| Salt | 3 lbs. |
| Perfume | 3 lbs. |

The first formula will give a soap with an excess of coconut oil and will have the usual smooth appearance of these soaps. The second formula which contains a slight excess of alkali will be harder, more brittle and whiter in appearance.

In order to carry out the process of making soaps by either of these formulae, the coconut oil, which has been pre-heated by closed steam in the storage tank, usually 24 hours in advance and then allowed to cool, is run into the crutcher and the temperature brought down to between 80° F. and 90° F. It is advisable to keep this temperature as low as possible considering surrounding temperatures. The lye of properly controlled density is then carefully weighed out on an accurate scale.

With the crutcher worm running so as to bring the mass from the bottom up to the top, the lye is run into the oil in a continuous thin stream. The vessel in which the lye has been weighed is then rinsed out with a part of the water. As crutching is continued, the mass thickens and emulsifies and has a homogeneous, creamy appearance. Upon taking out a small sample and permitting it to stand for observation, it does not readily separate. At this point the temperature has risen somewhat. This is always kept between 90° F. and 100° F., the lower the better. No definite period of time for this crutching operation can be given though the general principle may be laid down that it is better to over-crutch the soap than under-crutch it. The operation usually takes anywhere from 10 minutes to an hour or longer, depending upon the free fatty acid percentage of coconut oil. The lower this percentage is, the longer the crutching opera-



Recommended arrangement of coconut oil storage tanks for cold-process soap manufacture.

tion must be continued to obtain proper emulsification and thickening.

Just before the soap mass is ready to be dropped into the frame, the perfume is added. Then the sodium thiosulfate (hyposulfite), which has been dissolved in the rest of the water and strained through a close mesh cloth, is added. The crutching is continued about five minutes to distribute it through the emulsion thoroughly. It is then ready to drop to the frames. Just before dropping, it is good practice to run out a bucketful of the mass through the outlet valve and pour it into the top of the crutcher. This assures a better mix.

The mixture in the crutcher is then run into frames, which have been previously set up. As it is quite thin, it is necessary that the frames, to hold this soap, be water tight. Suitable frames for the reception of this emulsion usually have additional clamps on the ends and additional tie rods on the bottom. Then too, it is necessary to use wood wool or a thick soap paste made by heating scrap soap to stop up all cracks. Unless this is done much of the soap will run onto the floor through even the smallest apertures.

As the saponification is completed in the frames and is merely started in the crutcher, it is necessary to keep the mass in the frame warm for a period of at least 24 hours. In many factories it is customary to do this by covering the frames with burlap bags and properly-

fitted woolen bags which slip over the frames. A much better procedure, however, is to roll the frame, after it has been filled with the oil-lye emulsion, into a hot room, the temperature of which is maintained around 110° F. If the frames are not kept warm, the soap forms a trough lengthwise through the frame at the top and increases the amount of scrap soap. In cases where frames are covered, this is reduced but in cases where a hot room is used the trough disappears entirely, presenting a smooth, clean top when the soap has finally cooled.

After the frame has stood in the hot room for 24 hours, it is rolled out into the room and maintained at room temperature for 3 or 4 days longer, depending upon the season of the year. In warmer weather, the longer standing is necessary. The sides are then stripped off and the soap is ready for further manipulation.

After the frame has been stripped, the sides are carefully scraped in order to remove any dirt or rust spots. It is then passed through the slabber to cut it into long slabs. In cases where sodium hyposulfite has been used and the soap is still warm, it will show a greenish tint as it is being slabbed. This, however, will disappear with cooling and aging.

After slabbing, the soap is passed through the cutting table and the automatic spreader and the blank cakes are piled on racks. These racks are then conveyed into a tunnel drier and heated just long enough to form a

skin over the outside of the cakes after which they are rolled out into the room and permitted to cool off. The cakes are then pressed into finished bars and wrapped or boxed, whichever the case may be.

Soap made by these formulae will be found to contain approximately 27 per cent moisture in the frame which dries down to about 25 per cent at pressing time. The soap made with the excess of lye is always harder and more brittle than that with the excess of coconut oil. In many cases, instead of pressing the soap into cakes it is merely barred or hand stamped to simulate more nearly castile soap bars.

If the soap is handled as described and care is taken to set the wires on the slabber and cutting table so that a minimum amount of scrap soap is obtained, it will be found that this can be held below 10 per cent. Since one of the difficulties in making a soap of this kind is the re-handling of the soap scrap, it is important that this scrap be kept down to the minimum. It cannot be put back into the fresh batch of soap and must be used in other directions. In cases where colored scrap is used, it is sometimes customary to cut it up into small pieces and to distribute it through the frame as it is saponifying in order to give the finished soap a mottled effect in various colors.

In cases where other cold-process soaps are made as, for instance, those outlined by the following formulae,

the first one of which may be designated as castile soaps, the procedure is very much the same as that just described. The following are typical formulae:

I.

| | |
|------------------------------|----------|
| Olive Oil, Yellow | 700 lbs. |
| Caustic Soda Lye 37° B. | 350 lbs. |

II.

| | |
|------------------------------|----------|
| Olive Oil, Yellow | 630 lbs. |
| Coconut Oil | 70 lbs. |
| Caustic Soda Lye 37° B. | 351 lbs. |

III.

| | |
|------------------------------|----------|
| Tallow, Extra Choice | 800 lbs. |
| Coconut Oil | 100 lbs. |
| Caustic Soda Lye 31° B. | 630 lbs. |

In handling soaps of this type, it is customary to keep the temperature of the oil or fat when run into the crutcher below 100° F. and to continue stirring until the oil is smooth and thoroughly emulsified with the lye as in the case of the coconut oil soaps. It is then dropped into the frame and handled in the same manner as the cold-made coconut oil soap.

In certain cases, it has been found advantageous to frame olive oil soap in smaller frames holding about 250 lbs. These are then pushed into special, insulated compartments in order to distribute the heat more thoroughly throughout the smaller mass. This is especially true where the castile soap is to be ground for powders.

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Slabbing and cutting cold-made soap. The blank cakes are permitted to "skin" before they go to the press.

Fat and Oil Taxes

What Effect on Soap Costs, Sales and Quality?

TAXES have raised prices for oils and fats to a point where the higher cost represents an increasingly serious problem to the American soaper. The anticipated further advance of fat and oil prices over the next six or eight months adds an additional worry to be borne by the soap manufacturer. Excise taxes, added to tariff imposts which have been in effect for some years, place on most imported oils and fats a tax in excess of one hundred per cent,—the highest protective duty enjoyed by any group of domestic commodities. Recent additions to the list of oils and fats subject to processing taxes now make that list rather complete as far as foreign products available in sufficient tonnage to be important to the soap industry, are concerned. Where the Revenue Act of 1934 placed a three-cent tax on Philippine coconut, palm, palm-kernel, sesame, sunflower, and imported whale and fish oils, the Act of 1936 added three-cent processing taxes on imported tallow, greases, fatty acids, and advanced the tax on sesame, and sunflower to four-and-a-half cents, and added rape, perilla, hempseed, and kapok oils at the latter rate.

Inasmuch as the fat content of the average soap probably constitutes more than three-quarters of the raw material cost, the general effect of the combined processing taxes has been about to double material costs by forcing up prices well over a hundred per cent. Throughout the soap industry, prices for soaps have not advanced in keeping with these cost changes. The average increase for all soap prices during the past year or so has certainly not exceeded 33 1/3 per cent. Some soap specialties and certain bulk products have advanced closer to the proportionate rise in fats, but the rank and file of laundry and toilet soaps have not advanced sufficiently to come even close to covering the cost increase. Excessive competition is stated to be the reason for soap prices failing to move up on raw material advances, and reflecting rather quickly any downward movement in the raw material markets.

A study of the original excise taxes and the taxes which were added in the Revenue Act of 1936 leaves the distinct impression that they were designed primarily to shut off cheap raw material from one industry, and one industry only,—the soap industry. The attempts to push up oil and fat prices by legislation have not been aimed in the direction of the edible products. They are so designed as to give the lower grades of domestic fats and oils the widest protection. The specific inclusion of linseed fatty acids in the 1936 Act seems rather direct evi-

dence that it was the intention to shut off the foreign source of every cheap fatty substance.

For the producers of domestic oils and fats, there is no doubt but that the original excise taxes, and the subsequent general price advances, just about made the difference between profit and bankruptcy. Domestic crushers, fish oil producers, and renderers have during the past two years returned to something like normal conditions. Where in 1933, they were selling uniformly below cost, today's prices unquestionably represent a very attractive margin of profit. The increase in value of American fat and oil production in 1935 as compared with 1933 was several hundred million dollars, the greater part of which accrued to the benefit of the oil crushers and renderers. The person or persons who were successful in having introduced the original legislation calling for excise taxes on oils and fats, and who fought this legislation through Congress in the face of opposition from the soap industry and other consumers, most certainly did a handsome job financially for the American oil and fat producers. It is one piece of legislation, the cash value of which to its beneficiaries is already measurable in hundreds of millions of dollars, and which will be worth even more in the years immediately ahead. Its effects financially on certain units of the soap industry, however, are not likely to be as beneficial. Possibly some soapers during the next year or two are going to know how the renderers felt back in 1932 and 1933,—that is, if soap prices are not put up and kept up in proportion to raw material costs.

Now that the taxes on imported soap fats are complete to the point of including foreign greases, fatty acids, and even kapok oil, the problem of the soap industry is naturally to readjust itself,—if such a thing be possible,—to the new conditions. Probably, there will be little readjustment in fat sources. Mostly, soapers will pay the taxes and continue to use much the same fats and oils which they have used heretofore. But the working of by-product fatty materials for use in the soap kettle receives additional impetus.

Certain untaxed oils appear to hold possibilities of getting around the tax to some extent,—oils such as babassu, and denatured olive oils which are free of all taxes, but the possibilities are admittedly not great. Babassu oil might hold extensive development for the future, but any immediate large tonnage, no matter how rapidly facilities for crushing in South America were pushed, does not seem likely. Babassu nuts are being

Taxes on Oils and Fats

Present import duties and excise taxes on oils and fats as covered in the tariff law and the Revenue Acts of 1934 and 1936.

| | Tariff | Excise Tax Per lb. | | Tariff | Excise Tax Per lb. |
|--|----------------|-----------------------|---|---|-----------------------|
| Animal Fats and Oils— | | | Olive oil, weighing with container less than | | |
| Butter | 14c per lb. | .. | 40 lbs. | 8c per lb. | .. |
| Lard | 3c per lb. | .. | —rendered unfit | Free | .. |
| Grease | 20% ad valorem | 3c | —n.s.p.f. | 6½c per lb. | .. |
| Neatsfoot oil | 20% ad valorem | 3c | Palm oil for tin-plate | Free | .. |
| Oleo oil and oleostearine | 1c per lb. | 3c | —other | Free | 3c |
| Tallow | ½c per lb. | 3c | Palm-kernel oil | 1c per lb. | 3c |
| Red oil (oleic acid) | 20% ad valorem | 3c | —rendered unfit | Free | 3c |
| Stearic acid | 25% ad valorem | 3c | Peanut oil | 4c per lb. | .. |
| Other animal fatty acids | 20% ad valorem | 3c | Tallow, vegetable | Free | .. |
| Oleomargarine and other butter substitutes ¹ | 14c per lb. | 15c | Teaseed oil | Free (according to classification) | .. |
| Lard compounds and lard substitutes ¹ | 5c per lb. | .. | Corn oil | 20% ad valorem | .. |
| Marine Animal and Fish Oils— | | | Cottonseed oil | 3c per lb. | .. |
| Cod oil | Free | .. | Croton oil | Free | .. |
| Cod-liver oil | Free | .. | Rape oil | 6c per gal. | 4½c |
| Herring oil ² | 5c per gal. | 3c | —rendered unfit | Free | 4½c |
| Menhaden oil ² | 5c per gal. | 3c | Sesame oil | 3c per lb. | 3c |
| Seal oil ² | 6c per gal. | 3c | —rendered unfit | Free | 4½c |
| Sod oil ² | 5c per gal. | 3c | Sunflower oil | 20% ad valorem | 4½c |
| Sperm oil, crude | 2½c per gal. | .. | —rendered unfit | Free | 4½c |
| —ref. or processed | 14c per gal. | .. | Fatty acids (veg. oil) ³ | 20% ad valorem | .. |
| Whale oil (other than sperm) ² | 6c per gal. | 3c | Drying— | | |
| All other animal and fish oils, fats and greases, n.s.p.f. and fatty acids | 20% ad valorem | 3c | Hempseed oil | 1½c per lb. | 4½c |
| Soap— | | | Linseed oil | 4½c per lb. | .. |
| Castile | 15% ad valorem | .. | Linseed fatty acids | 20% ad valorem | 4½c |
| Other toilet ¹ | 30% ad valorem | .. | Oiticica oil | 20% ad valorem | .. |
| All other, incl. soap powder | 15% ad valorem | .. | Poppy oil | 2c per lb. | .. |
| Vegetable oils— | | | Perilla oil | Free | 4½c |
| Babassu oil | Free | .. | Rubberseed oil | 20% ad valorem | .. |
| Castor oil | 3c per lb. | .. | Safflower oil | 20% ad valorem | .. |
| Coconut oil from Phil. | Free | 3c | Soybean oil | 3½c per lb. but not less than 45% ad valorem | .. |
| —other | 2c per lb. | 5c | Tung oil | Free | .. |
| Kapok oil | 20% ad valorem | 4½c | Walnut oil | Free | .. |
| | | | All other expressed or extracted vegetable oils, n.s.p.f. | 20% ad valorem | .. |
| | | | Nut oils, n.s.p.f. | Free | .. |

¹ Bears compensating tax equivalent to excise tax on ingredient oils.

² Tax does not apply to product of American fisheries.

³ Carry same excise tax as oil from which derived.

shipped in for crushing here, but this has certain drawbacks. Then, there are the oils on which the tariff is low and which do not carry a processing tax such as poppy, rubberseed, oiticica, teaseed, and one or two others. At any rate, the oils which present opportunities to avoid the processing tax are few and of lesser importance, and furthermore, outside of babassu and olive, they may be altogether unsuitable for use in regular toilet and laundry soaps. Maybe babassu oil which is quite similar to coconut may be the oil on which future attention will be centered. Who knows but that a few years hence it may be a serious tonnage competitor of coconut?

In the soap industry, the belief exists that price advances in soaps above the levels which have existed during recent months, will see a proportionate reduction in consumption as prices go higher. Of course, the general employment situation in the nation and similar situations have a direct bearing in this connection. Seven or eight years ago, soap prices were high and consumption did

not suffer materially. At that time, the general population had ample money to spend. However, high soap prices under present conditions are likely to have a different effect. There is no doubt but that the effect,—already apparent,—of high prices for industrial soaps is to send the demand into other channels wherever that is possible, such as in the substitution of trisodium phosphate, soda ash, silicates, and other alkali salts. Today all of these latter are very cheap, especially trisodium phosphate, which only accentuates the trend to substitute for other detergent materials including soaps. It is probably true that the higher the price of soap, the greater is the substitution of non-saponaceous detergents in all operations where such substitution is possible.

When raw materials advance, a cheapening of finished products in an attempt to compensate for the higher cost without raising prices or sacrificing profits, has been a common procedure for years. Where there cannot be any cheapening of the finished product by substitution

of lower cost materials or adulterants, there is no alternative but to advance prices if profits are to be maintained. However, in some soap products, cheapening of finished goods in numerous instances can be done, has been done and will continue to be done because of higher fat prices. In fact, almost everything will be done, it seems, rather than advance prices. But in spite of the magicians who stand at the valves of our soap kettles, more rancid, off-color, poor quality soaps are going to be seen on the market than heretofore. The majority of soapers will pay "through the nose" for good quality fats, but the minority will not, and it is these latter who will take every advantage of the situation.

SOME interesting points in the effects of the fat and oil excise taxes have been brought out in an analysis of the situation recently prepared by the Bureau of Agricultural Economics of the U. S. Department of Agriculture. Their analysis states in part: "Excise taxes have had some very significant effects upon prices, imports, and uses of fats and oils in the United States. Coconut oil is the most important of the several oils upon which an excise tax was imposed. The addition of the excise tax in 1934 apparently has not reduced the importation or use of either copra or coconut oil. The imports of copra from the Philippines in 1935 were larger than for any previous year excepting 1933, and the imports of coconut oil were the largest excepting 1929. The duty of 2 cents per pound upon coconut oil from sources other than the Philippines and the imposition of an excise tax of 5 cents per pound upon the oil produced from copra from other sources have practically eliminated the imports of copra as well as coconut oil from sources other than the Philippines.

Curtailement in the domestic production of fats and oils, together with general improvement in demand conditions has raised the prices of all fats and oils, so that the price of coconut oil has advanced enough to increase the returns to Philippine producers in spite of the tax. The average price of copra in Manila in 1933 was 1.1 cents, and in 1935 about 2.0 cents per pound. It is probable that the imports of copra and coconut oil from the Philippines would have been greater and prices to producers would have been somewhat higher than they have been, had there been no excise tax, unless the imports from other sources had materially increased.

Placing an excise tax upon coconut oil and not changing the import duties or tax rates upon some other oils resulted in some significant changes in the use of that oil. The most important single use of that oil is in the manufacture of soap. On the average in recent years, about 60 per cent of the coconut oil used in the United States has been consumed in soap. A little more than 20 per cent has been used in oleomargarine, and most of the remainder in other edible products. Following the imposition of the tax, in 1935 only 39 per cent of the coconut oil consumed in this country was used in

soap and its use in oleomargarine and other edible products was increased. This shift is logical in that the excise tax increased the cost and tended to shift utilization into higher-priced products. Other important factors in the shift were the availability of supplies and the prices of some of the more important competing products. The most important competitor of coconut oil in soap is tallow, and its use increased.

The production of tallow and grease in this country was fairly large in 1934 but declined materially between 1934 and 1935. Since the import duty on tallow was relatively low,—one-half cent per pound,—and no excise tax had been imposed on it, large quantities of tallow were imported to make up for reductions in domestic supplies and to substitute for some of the other products upon which the excise tax had been imposed. The imports of tallow increased from an insignificant quantity in 1933 to 246,000,000 pounds in 1935. The factory consumption of fats and oils in the manufacture of soap in 1934 was greater than in 1933 by 163,000,000 pounds, and nearly all of this increase was contributed by inedible tallow. In 1935 the fats and oils used in soap declined to about the same level as in 1933, and the use of coconut oil was reduced by over 100,000,000 pounds with the quantity of tallow used remaining the same. Stated in another form, the proportion of coconut oil declined from 25 to 18 per cent, whereas that of inedible tallow increased from 39 to 50 per cent of the total of the fats used in soap.

Excise taxes had been imposed also on several other oils (including palm and palm-kernel oil, and imported whale and fish oil) used in the making of soap. Apparently the excise tax caused some reduction in the use of palm oil. The use of fish oil of domestic production, not subject to the import excise tax, increased. It should be noted also that there was some increase in the importation of soap, but the fats used in the manufacture of soap in this country in 1935 were still apparently equal to those of 1933. Thus it appears that by far the most significant change was in the importation of tallow, and that the use of tallow probably prevented a material increase in the use of coconut oil in soap in 1934 and displaced it to some extent in 1935.

The factory consumption of coconut oil in oleomargarine and other edible products increased materially in 1935. The production of oleomargarine increased, and the use of coconut oil increased but not as much as cottonseed oil. Comparing 1933 and 1935, it will be observed that the use of coconut oil in the manufacture of oleomargarine increased from 150 to 174 million pounds, and the use of cottonseed oil increased from 18 to 100 million pounds. In 1933 coconut oil constituted 75 per cent of the fats and oils used in oleomargarine, whereas in 1935 it was only 56 per cent. It is of interest to note also that soybean oil and babassu begin to appear as of some importance in oleomargarine in 1935. In fact, the greatly increased production of soybean oil is being

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Liquid Soap Dispensers

Prevention of leakage, theft, waste,—a brief study of the most recent one hundred U. S. patents issued since 1920.

By Dr. Joseph Rossman

SEVERAL hundred patents have been issued for improvements in the details of construction of liquid soap dispensers. A great deal of attention for example has been given to the proper design of the valve structures in order to prevent leakage which is a very common defect. This leakage is often difficult to overcome because of the nature of soap solutions which, owing to their reduced surface tension, will escape through minute openings and cracks through which water will not pass.

Another result sought for has been the design of tamper proof dispensers so that mischievous persons may not drain too much of the soap solution or put the dispenser out of order by rough handling. A large number of dispensers have been designed so as to be readily repaired in case the valve or other parts became worn or got out of order.

In order to give some idea of the many proposals which have been made for the construction of liquid soap dispensers, there have been summarized here the most recent hundred patents which have been granted by the United States. Among them are found names still widely known in the liquid soap trade.

1. MORRIS, 1,361,891, December 14, 1920. A soap dispenser having a passage communicating with a source of supply, and a discharge port, and a pair of spring-controlled plungers operable in the barrel to force liquid through the discharge port, there being a port in the barrel communicating with the passage and admitting liquid soap to the space between the plungers and a second port in the barrel also communicating with the passage and opening into the barrel at the forward end thereof.

2. BOBRICK, 1,362,077, December 14, 1920. A liquid soap dispenser comprising a container; a tube extending inside the container and carrying an inlet valve and a separate charge chamber having a free port; a piston working in the chamber; a tubular piston rod provided with a spout and arranged to operate the piston; and adjustable means to limit the length of the stroke of the piston rod.

3. McCLAIN, 1,334,769, March 23, 1920. A liquid dispenser comprising a container, a discharge passage

therefor, mechanical means for simultaneously compressing the contents of the container, exposing the passage to the liquid therein and forcibly discharging the liquid from the passage

4. WOOD, 1,369,595, February 22, 1921. A soap dispenser comprising a receptacle, a water supply for the receptacle, a soap receptacle carried by the water receptacle and having a depending wall for co-acting with the supply element to control the supply of water to the water receptacle, and means for controlling the flow of soap from the soap receptacle.

5. LITTLE, 1,370,460, March 1, 1921. A dispenser comprising a can, a holder into which the rim of the can is entered, a plurality of piercing pins, a rotatable member adapted when rotated in the proper direction to project the piercing pins to position to pierce the can, feeding means adapted to initially rotate the member to project the piercing pins and thereafter progressively eject the contents of the can.

6. WILLIAMS, 1,392,379, October 4, 1921. A liquid dispensing apparatus, comprising a hollow body having an opening in its bottom wall, a liquid holding vessel depending from and detachably connected to the body, means carried by the body and operable from the outside thereof for discharging liquid from the vessel at a level above and an inverted liquid container having a portion extending through the open bottom of the body into the vessel for replenishing the supply of liquid therein.

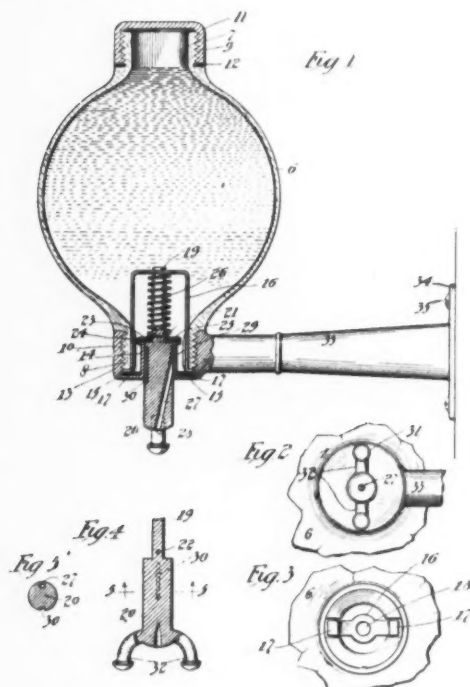
7. ROSE, 1,392,600, October 4, 1921. The combination with a fluid soap tank of a discharge device comprising a horizontally arranged disk having an inlet aperture controlled by a non-return valve, a cup-shaped flexible member below the disk having a self-closing outlet aperture at its lowest point in vertical alignment with the inlet aperture, the disk and member inclosing a pump chamber, a spindle secured to the valve and extending through the outlet aperture, and means for applying pressure to the flexible member to eject fluid from the outlet.

8. ROSE, 1,392,601, October 4, 1921. A fluid soap tank comprising a flexible pump chamber having an inlet provided with a non-return valve and a self-closing out-

let, and a flexible tube extending through the outlet and constituting a valve therefor.

9. RUBEL, 1,403,348, January 10, 1922. A lavatory comprising a washstand, a liquid soap dispensing tank

W. D. McCLAIN
LIQUID DISPENSER
A PPLICATION FILED MAR 19 1921
1,334,769. Patented Mar. 23, 1920



supported above the stand, and having a broad, flat, upper surface forming a shelf and tapering downwardly to a narrow bottom, and a soap dispensing valve adjacent to the bottom of the tank and projecting outwardly over the washstand.

10. ROBERT, 1,408,921, March 7, 1922. An automatic distributor of liquid soap consisting of a reservoir provided with a single orifice through which the soap flows, a receptacle into which the soap is deposited and in which the consumer dips his fingers, the orifice being obstructed by the soap contained in the receptacle, characterized by the fact that the relative position of the reservoir and of the receptacle is such that the allowance of soap in the latter may be reached only with the fingertips.

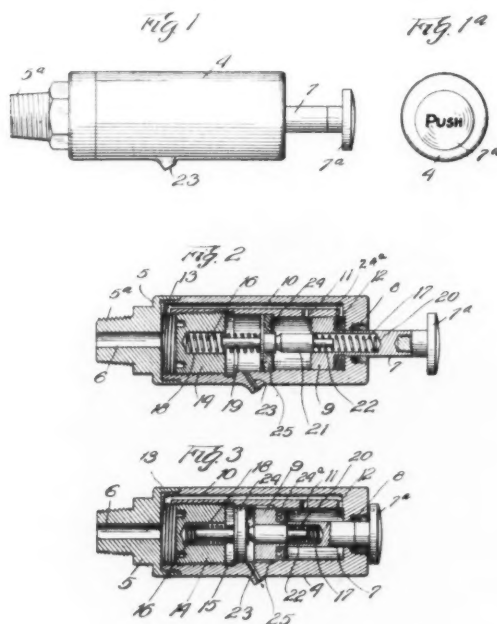
11. SCHWARZ, 1,409,790, March 14, 1922. A liquid soap dispenser comprising a receptacle portion having a curved neck portion, a cover, a flange portion on said cover adapted to embrace the neck portion and be connected thereto, the cover portion having an outlet aperture, and a spring valve disposed adjacent the aperture on the inside of the cover, one end of the valve being fastened to the cover, the other end being free, whereby the valve normally restricts the opening of the aperture within the receptacle.

12. SCHULTZ, 1,446,217, February 20, 1923. A liquid soap dispensing valve having a body member provided with a longitudinally extending bore, the forward portion of the bore being of uniform diameter, there being a shoulder in the central portion of the bore, a valve member seated against the shoulder aforesaid, there being a peripheral groove encircling the valve member, a passage in the valve member communicating with the groove and with the forward portion of the bore of the body member, a check valve in the passage, there being a discharge port in the body member in position to communicate with the encircling groove of the valve member, and a longitudinally operable plunger in the forward portion of the bore of the body member, and means for closing the intake port when the plunger is forced towards the valve member, there being a suitable intake port in the valve member.

13. HOLMES, 1,454,284, May 8, 1923. A liquid dispenser having a chambered casing which has shouldered valve seats at the inner and outer ends inlet and outlet valves adapted to abut the seats, a stem on the outlet valve having a cut-away portion adapted to permit the exit of fluid from the chamber, and a spring interposed between the two valves, said spring being short enough to permit the inlet valve to be away from its seat when the outlet valve is in contact with its seat and long enough to hold the inlet valve in engagement with its seat prior to the time when the cut-away portion of the

E. L. MORRIS.
LIQUID SOAP DISPENSER.
APPLICATION FILED MAY 29, 1919.

1,361,891. Patented Dec. 14, 1920.



stem of the outlet valve reaches the outlet valve seat.

14. LEWIN and BARTLETT, 1,455,593, May 15, 1923. A liquid container, air-tight at all points except where the discharge aperture is placed, the container being of

inverted cone-shape around the discharge passage and a correspondingly shaped cup or receptacle positioned around and beneath the outlet orifice, and adapted to receive a measured quantity of the liquid from the container and to discharge the liquid when lifted up to the container and means for suspending said cup or receptacle, the means comprising a plurality of pins or pieces attached to the cup or receptacle and passing through guides provided in a suitably shaped member which encircles the container.

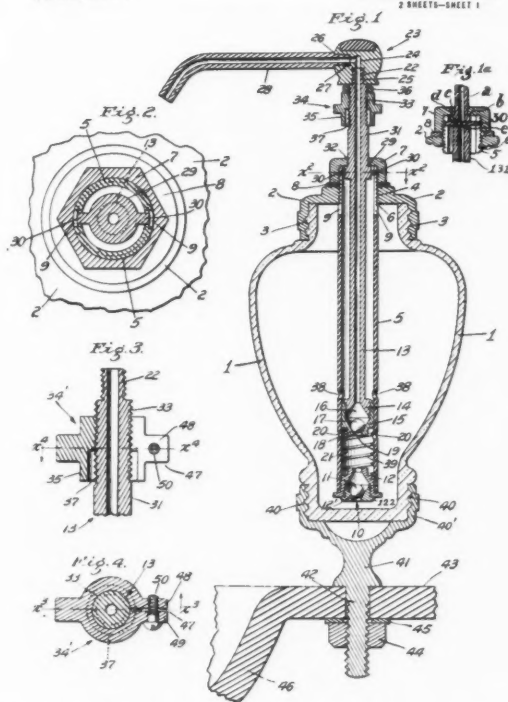
15. RESEK, 1,455,970, May 22, 1923. In a dispensing device the combination of an invertible support, a container removably supported thereby, a lock that is automatically rendered effective by the placement of the support in normal position for locking the container against removal from the support, and means for locking the support in normal position.

16. DOLGE, 1,465,161, August 14, 1923. The invention contemplates the provision in a partially revolving liquid dispenser of means whereby after the dispenser is manually revolved to the limit of its movement only a sufficient amount of liquid will emerge from the dispenser. After dispensing the liquid the container will automatically return to its initial inoperative position. The dispenser consists of a bottle having a lower end of increased size, a tube arranged in the mouth of the bottle, a bore extending longitudinally in the tube, a

G. A. AND A. L. BOBRICK.
LIQUID DISPENSER.
APPLICATION FILED MAR. 16, 1915.

Patented Dec. 14, 1920.
2 SHEETS—SHEET 1

1,362,077.



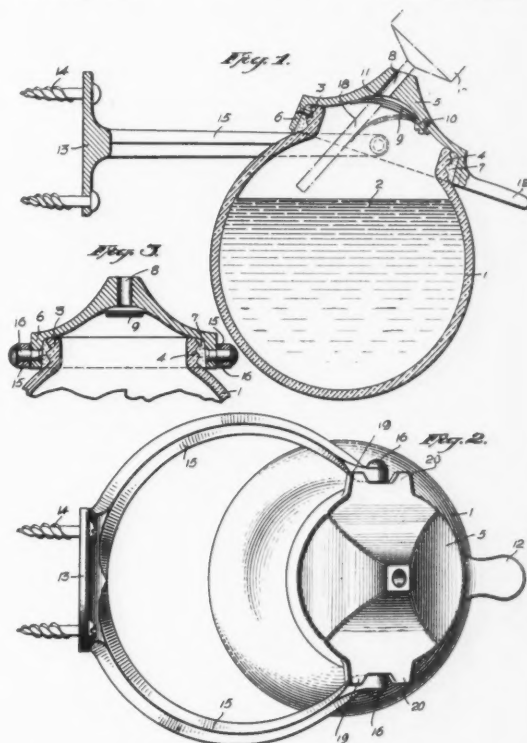
check ball that moves in the bore, a disk for retaining the ball in the lower end of the tube, an orifice of decreased size formed in the upper end of the tube in registration with the bore thereof, a band secured to

the bottle portion secured to the band, a shank formed with respect to the band, a casing surrounding the shank, a projection formed on the shank and an arcuate slot formed in the base of the casing, to receive the projection and to limit movement of the projection.

L. B. SCHWARZ.
SOAP DISPENSING DEVICE
APPLICATION FILED DEC. 21, 1922

1,409,790.

Patented Mar. 14, 1922.



17. BERG, 1,471,441, October 23, 1923. Various difficulties have been observed in the use of liquid dispensing devices, among which may be mentioned that of maintaining the liquid against leakage, and this has been particularly true in liquid-soap dispensers since the particles of that commodity move very freely upon each other and the liquid will ordinarily escape through exceedingly fine crevices or passageways. Other objections have been the necessity of frequent cleaning or adjustment of parts to maintain a device in an operative condition. The principal objects of this invention are to provide a dispensing device in which the liquid may be held securely against leakage; one of such construction, that its safety provisions will remain effective throughout a long period of time; one of simple construction and which does not call for adjustment or attention to maintain it in effective condition except possibly for occasional packing or tightening of the external packing gland, as usual with such packing; one which is strong and capable of withstanding hard usage without injury; one in which wear upon interior valve parts is automatically taken care of throughout the life of the device; one which may occupy but a small amount of space; and

one in which, through wear of valve parts, the valve elements tend to become even more perfectly fitted together. The dispenser consists of the combination of walls forming a chamber having an intake and an outlet for a liquid, a reciprocable plunger in the chamber, valve means carried by the plunger and adapted to slide upon the chamber walls having the intake and outlet and being adapted thereby to open and close them, the valve means being adapted to close the cutlet and open the intake when the plunger is moved in one of its stroke directions and to close the intake and open the outlet when the plunger is moved in the opposite stroke direction, the valve means being mounted for relative movement toward the walls having the intake and outlet whereby a tight sliding fit may be maintained thereat, and spring means for pressing the valve means against the walls to maintain such tight sliding fit.

18. STAPLEY, 1,472,695, October 30, 1923. The invention relates to means for controlling the discharge of liquid soap. It consists of a cap adapted for attachment to a receptacle and provided with an opening, a cup mounted in the cap and having a portion extending through said opening, a plunger provided with a valve within the cup and mounted to reciprocate in said extension, the plunger having a discharge passage leading from the cup to a point adjacent the outer end of the plunger a spring surrounding the plunger and tending to hold the valve in closed position, and a shell surrounding the spring and having an end embracing the extension, the outer end of the extension being clinched over the end of the shell to secure the cup and shell of the cap.

19. BOBRICK, 1,479,978, January 8, 1924. The invention is adapted for dispensing liquid soap in public lavatories such as the lavatories of sleeping cars, clubs, hotels and the like, wherefrom a single or common reservoir a number of dispensing devices are to be supplied either by gravity or pressure and where the tubes or channels connecting the reservoir with the dispensers are extended horizontally as well as vertically or bent in curves whereby the liquid is required to flow from the reservoir to the dispensers not simply vertically but horizontally and, in many cases, down and up again or vice versa. An object of the invention is to construct a liquid dispenser which will prevent the entrance of air into the tubes supplying the liquid to the dispenser; to provide such a construction of parts as to positively measure the quantity of liquid dispensed by each operation of a plunger, to prevent a continuous flow of liquid when the dispenser is in operation; to prevent leakage from the discharge nozzles so that the liquid is discharged only in the predetermined quantity and at the predetermined time and there is no drip or waste of the liquid. The construction has a body having a piston chamber, one end of such chamber being of reduced diameter, an opening through the end of the body, a spring-actuated piston mounted in the piston chamber and having a stem extending out through the opening, a hollow lateral ex-

tension communicating into the piston chamber, a valve chamber and independent valve mechanism in the extension adapted to close the passage of liquid through the extension into one end of the piston chamber upon the actuation of the piston, and valve means normally closing

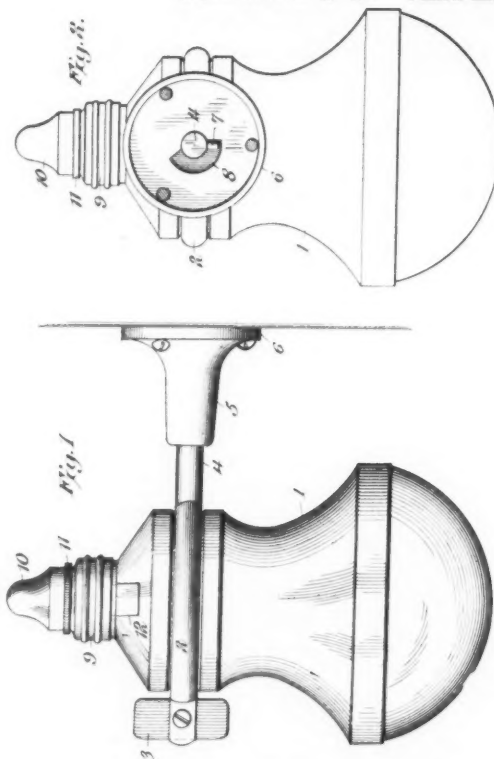
Aug. 14, 1923.

K. A. DOLGE

1,465,161

SOAP DISPENSER

Original Filed Feb 19 1921 2 Sheets-Sheet 1



the piston chamber from discharge of liquid from the opposite end of the piston chamber.

20. D'ALESSANDRO, 1,505,377, August 19, 1924. This invention relates to lather producing and dispensing device adapted for use in barber shops, wherein a batch of shaving lather may be produced and kept in readiness for use by the barber as needed, thereby obviating the necessity for mixing a fresh batch of lather for each customer. It comprises a container; a closure member removably secured to the container; means carried by the closure member for agitating the contents of the container; and a controlled outlet adjacent the bottom of the container, from which the contents may flow by gravity.

21. STEPHENS, 1,505,442, August 19, 1924. The invention relates to a lather brush and consists in introducing between the flexible wall of the lather brush and the valve thereof, a thrust rod which is adapted to partake of the movements of the flexible wall and displace movable parts of the valve sufficiently to develop the opening or openings required for passage of the lather-producing fluid to the bristles.

22. BOBRICK, 1,510,075, September 30, 1924. A liquid soap dispenser consists of a displacement chamber having

an inlet and an outlet port, a plunger member in the outlet port and extending into the chamber, a closure pin actuated by the plunger and adapted to move to and from the inlet port, a compressible washer at the inlet port end of the chamber through which washer the pin passes, and resilient means bearing at one end on the washer to compress it and bearing at the other end the plunger.

23. BULLARD, 1,513,485, October 28, 1924. A liquid soap dispenser comprising a fount and a base therefor, the base formed in its under-side with a chamber, a cylinder in the chamber, and a passage from the fount into the cylinder, two diaphragms mounted below the cylinder, a valve-block located between said diaphragms and formed at its upper end with a seat, a piston in the cylinder, with a downwardly-extending stem, a gate at the lower end of the stem co-acting with the seat, ports in the valve-block between said diaphragms, a discharge-opening from the space between the diaphragms, and means for upwardly deflecting the diaphragms.

24. BRANT, 1,529,388, March 10, 1925. A dispensing device including a cup having an open top, a support for the cup, dispensing means in the support to optionally discharge material from the cup, and a cover in the form of an inverted cup secured to the support and covering the first mentioned cup and concealing it, the inverted cup being permanently closed at the top and sides and open at the bottom only.

25. DEPALMA, 1,534,307, April 21, 1925. A shaving cream dispenser comprising a container having a depending and restricted neck and an open upper end, a centrally perforated frusto-conical cover for the container, a stem vertically reciprocative in the container and extending through the cover perforation, a yieldable packing member carried by the cover around the stem, means on the stem adapted to engage said packing member to limit upward movement of the stem, a valve on the stem inwardly of the lower end thereof to seat on the inner end of the neck, and a plunger in the neck below the valve, the plunger comprising the lower end of the stem.

Cold Made Soaps

(From Page 27)

In such cases it is also advisable to add about 1 per cent of salt. This overcomes to a large extent the possibility of rancidity in the finished castile soap powder. This development of rancidity and free fatty acid in the powdered soap sometimes proceeds to the point where the heat generated is so great that the mass actually takes fire and burns.

Formula III consisting of tallow and coconut oil is usually cut into bars and hand pressed. Soap of this kind has been used for export purposes where it is in demand.

In spite of the disadvantages and imperfections of cold-made soaps, there are still large quantities preferred by consumers in the shape of cold-made coconut oil and

castile soaps. The cold-made coconut oil soaps give a quick, profuse, but rapid-drying lather, while the castile soaps give a slow, sparse slimy, but lasting lather. Both soaps have a large volume of sales and there are a number of the smaller plants which specialize particularly in cold-made soaps of this kind.

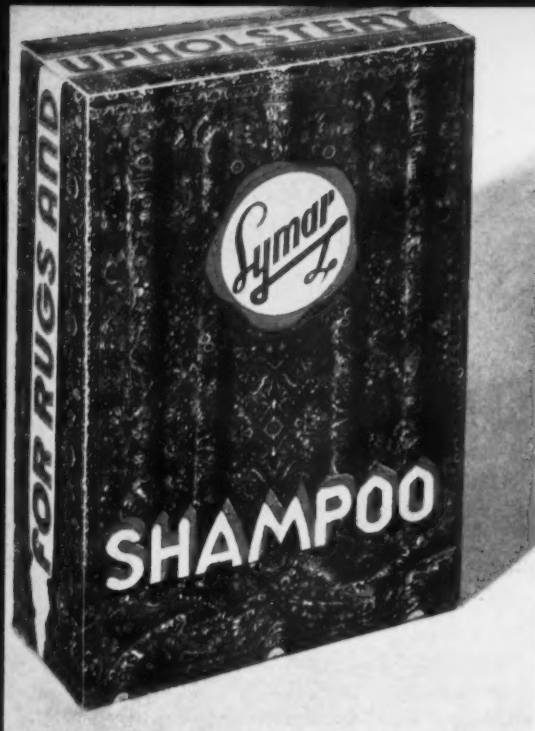
Fat And Oil Taxes

(From Page 30)

largely utilized in edible products. Babassu is a new development and it is free of duty as well as of excise tax. Thus it seems probable that the excise tax upon coconut oil restrained its use in oleomargarine to some extent and led to a greater increase in the use of cottonseed oil.

Placing the excise tax upon the specified oils was followed by a material increase in the imports of many of the oils upon which no excise tax had been placed. In some cases import duties had checked imports in competition with those that remained free, and the placing of the excise tax upon these specified oils improved their competitive position. The importation of sesame seed had been free. The application of an excise tax to the oil checked the imports for the one season. However, since sesame oil is of relatively high value, the 3-cent excise tax upon this oil is low in comparison with the same tax upon coconut oil; and the imports of sesame seed increased greatly in 1935 and in the early months of 1936. The imports of sunflower oil also increased in spite of the 3-cent per pound excise tax and an import duty of 20 per cent ad valorem. The imports of peanut, cottonseed, and corn oils,—which are subject to import duties but not to excise taxes,—greatly increased. The imports of kapok seed increased and imports of kapok oil and babassu nuts began to appear important in 1936, all free of duty. Thus placing the excise tax upon certain specified oils resulted in a material increase in the imports of those oils upon which no excise tax was levied and which remained free of import duty or upon which the duties were low relative to their values in competition with those upon which the excise tax was imposed.

The restraining influence of the excise taxes upon coconut, palm, palm-kernel, fish, whale and other marine animal oils was probably a factor of some importance in reducing the stocks of fats and oils in this country. In the course of the depression stocks accumulated at a rapid rate. By the end of 1933 the stocks had accumulated to the extent of about 2,398,000,000 pounds, and by the end of 1935 the stocks had been reduced to about 1,833,000,000 pounds. The greatest change is in cottonseed oil, the stocks of which had been reduced from 997,000,000 to 563,000,000 pounds. The stocks of butter and lard were also excessive and have been reduced to about a normal level. Curtailed production and improved demand conditions have been, of course, important factors in reducing stocks to the more nearly normal levels."



Lyomar Rug Shampoo,—a new product of the Lyomar Sales Corp., New York, for cleaning rugs and upholstery, is a granulated detergent packed in a carton designed and colored to appear like an oriental rug.

Royale Bath Cologne, an after-bath body rub and skin stimulant manufactured by the Allen B. Wisley Company for Ed. Gerarde of Chicago. Packaged in a sure-grip type bottle designed and supplied by Owens-Illinois.



One of the most beautiful of new soap packages,—Twilight Garden. Packed in midnight blue laminated cellophane covered box with white lettering. Three colors and odors of soap to the box. Made by Hewitt Soap Company of Dayton.

and
Packages



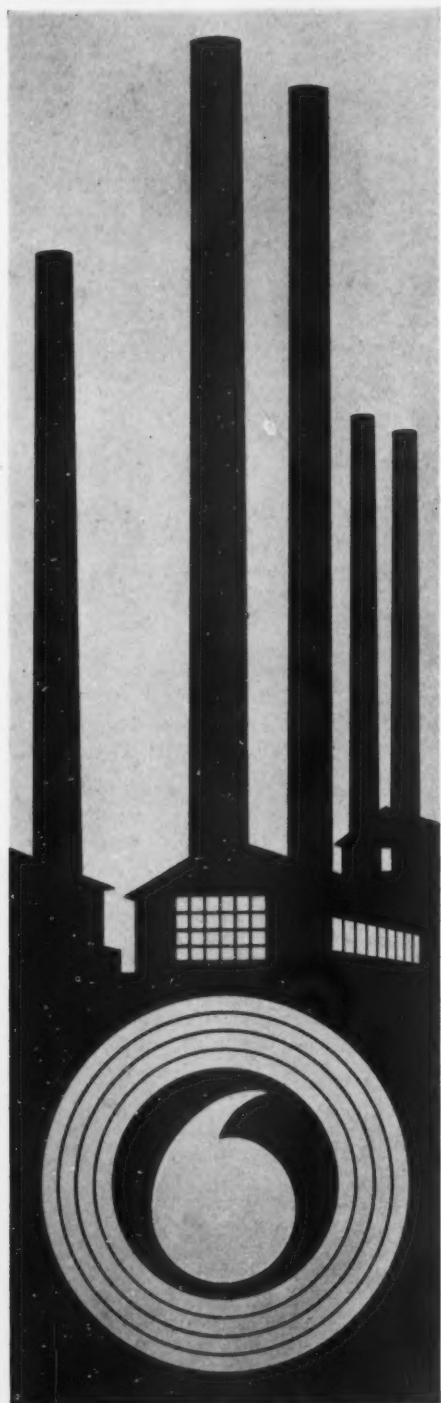
Nocturne Toilet Soap, -- another new Hewitt product packed one bar to the carton. Paper covered, also in laminated cellophane of dark blue and white. Package by Shellmar Products of New York.

A complete compact shaving set from England for the ladies, holding razor, small brush and bar of shaving soap. By Souplex, Inc., of London. Moulded container of Bakelite is only slightly larger than a match box.



Two new Pynol products, -- green pine-odor soap flakes for laundering, and green liquid pine shampoo. Color design of carton and bottle label in green and black. Manufactured by Pynol Company of Burlington, Iowa. Bottle by Owens-Illinois.

TURNER



CAUSTIC POTASH

Turner Caustic Potash is especially adaptable for manufacturers of soaps, oil soaps, dry cleaning soaps and textile specialties. It is available in flake, solid or liquid form in containers of all sizes to meet your requirements. Try it on your next order.

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Turner Caustic Soda is manufactured by the pioneers of the chemical industry and is produced under a rigid system of control during its manufacturing process. Available in solid, flake or liquid form.

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Turner T.S.P. is a brilliant white product. It is free flowing, quickly soluble, and will meet every cleanser requirement. For a superior product, Turner T.S.P. is an obvious first choice.

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A clear, sparkling product of highest purity, available for immediate delivery in any quantity. Users of Carbon Tetrachloride will find Turner the most reliable and convenient source of supply.

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Users of Stearic Acid can depend upon Turner for purity and unvarying quality. Single, double or triple pressed available for prompt shipment. Join the list of successful manufacturers now using Turner Stearic Acid.

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NEWS

Los Angeles Appoints

Los Angeles Soap Co. has promoted Robert Temple to assistant advertising director. He previously was an executive in the educational department of the company. Jerry Coleman, formerly partner in the dissolved firm of Swallow, Coleman & Haskins Advertising Agency, has also joined the advertising department of Los Angeles Soap Co.

Webber With Mennen

C. R. Webber has joined the sales staff of Mennen Co., Newark, N. J., as field supervisor. He entered the drug field with Packer Manufacturing Co. in 1927, where he instituted the Packer selected distributor plan. Lately he has been associated with Magnus, Mabey and Reynard, Inc., New York.

Offers Free Kettles

West Coast Soap Co., Oakland, Calif., is currently featuring an offer of a four-quart aluminum kettle which is given in return for 25c and 18 box tops from its "White Navy" soap.

Stop Skin Soap Claims

Belmont Laboratories, Inc., Philadelphia, is charged in a U. S. Federal Trade Commission complaint with unfair methods of competition in the sale of "Mazon" and "Mazon Soap", preparations offered as treatments for skin diseases. The seller allegedly represents that the two preparations are prescribed by prominent physicians and afford quick and permanent elimination of eczema, ring worm, athlete's foot, and many other skin disorders.

A similar action has recently been terminated by the Commission with the announcement that Whitney Payne Corp., New York, will discontinue use of all representations

not correctly describing its products. This concern which manufactures and distributes "Pheno-Cosan" and "Pheno-Cosan Medicated Soap", agrees to cease claiming in advertising matter that these preparations will cure or permanently relieve eczema, psoriasis, or general skin diseases.

John A. Cully With P. & G.

John A. Cully has joined the sales staff of Procter & Gamble Co. Mr. Cully, who was formerly with the merchandising department of the *Chicago Evening American*, is making his headquarters in Waukesha, Wisconsin.

Ray at Burlington

E. A. Ray, vice-president of the Iowa Soap Co., Burlington, Iowa, who for some months past has been directing the operations at the Camden, N. J. plant of the company, has returned to Burlington and is again making his headquarters at the main office.

Robertson Plant Unsold

The plant and equipment of the J. T. Robertson Co., Syracuse, N. Y. soap manufacturers which was purchased recently by a Syracuse bank is as yet unsold, according to reports from that city. The bank, it is stated, desires to sell the plant and machinery as a single unit and has refused offers for the purchase of the soap manufacturing equipment separately.

Forbid P. & G. Photo Deal

In a recent hearing before Judge Tetreau in the Montreal, Canada, courts the firm of Procter & Gamble Co. was ordered to appear for voluntary statement on July 23 on a charge of illegal use of trading

stamps. The charge was laid against the firm after two constables purchased three pieces of "Camay" soap for 25 cents and obtained with the soap three coupons entitling them to have their photographs taken for 15 cents at a local studio. The use of such coupons, which are considered "trading stamps" is forbidden under article 505 of the Canadian Criminal Code.

Heads Altoona Concern

John J. Ulrich is the new proprietor of Altoona Chemical and Janitor Supply Co., 1716 Union Ave., Altoona, Pa. The company manufactures a complete line of industrial cleaning preparations. Mr. Ulrich, reports that June business exceeded that of last year by a hundred per cent.

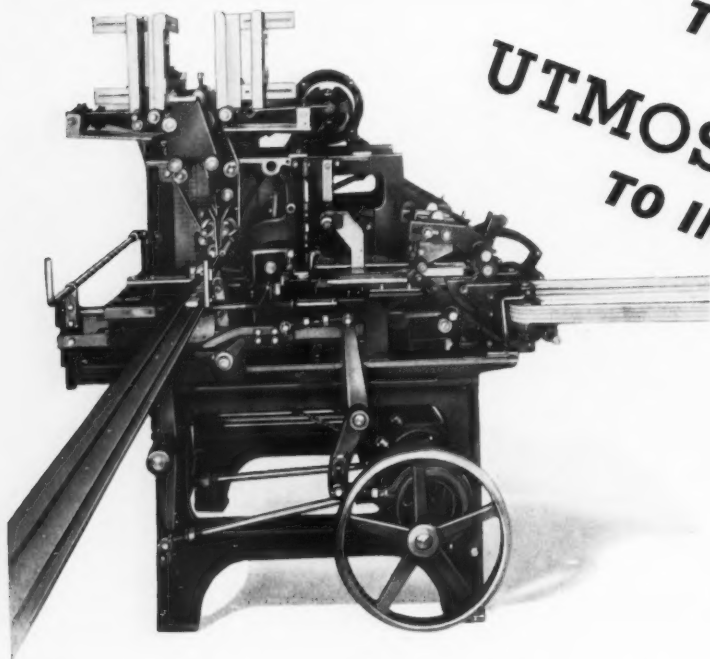
Chicago Soap Ass'n Meets

The Chicago Perfumery, Soap and Extract Association met June 30th at the Lake Shore Athletic Club. The meeting was in charge of the association president, George A. Wrisley, Allen B. Wrisley Co. J. H. Helfrich gave a detailed report of the convention of the Toilet Goods Association in New York, and John S. Hall spoke briefly regarding legislative matters. Mr. Hall predicted that 1937 would bring forth an avalanche of tax bills directed at toilet soaps, drugs, cosmetics, etc., because the legislatures of practically every state will be in session.

Check Buttermilk Soap Ad

Dennison Brothers, Inc., New York, dealers in groceries, drugs and sundries have been ordered by the U. S. Federal Trade Commission to stop representing, by means of advertising, photographs or price lists, that they manufacture the commod-

PERFECT WRAPPING TO WIN SALES... UTMOST ECONOMY TO INCREASE PROFITS



THE makers of Palmolive, Camay, Lux, and numerous other soap manufacturers all use our wrapping machines.

They appreciate the importance of a perfectly wrapped, smooth-looking package in appealing to feminine taste. They also find that our machines handle the product without in any way marring its delicate surface.

The high speed at which these machines operate produces the maximum volume with the smallest amount of labor, and the utmost economy of floor space. These savings add to profit.

We make many different types of machines to fill practically every wrapping need. We will be glad to study your special requirements and give you the benefit of our experience. Get in touch with our nearest office.

PACKAGE MACHINERY COMPANY SPRINGFIELD, MASSACHUSETTS

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Peterborough, England: Baker Perkins, Ltd.
Melbourne, Australia: Baker Perkins, Pty., Ltd.



PACKAGE MACHINERY COMPANY

Over 200 Million Packages per day are wrapped on our Machines

ities they sell. The Dennison concern has also been directed to cease labeling a particular soap as "Butt R Milk Soap", when buttermilk is only a minor ingredient.

Shulton Accepts F.T.C. Rule

Pursuant to an agreement with the U. S. Federal Trade Commission, Shulton, Inc., New York, will stop using on labels for its soap products the words "Royal York," independently or in connection with a picture of a crown, or in any manner implying that its soap products are made in England or are of British origin, when such is not the fact. Shulton also agrees to cease using on any of its printed matter the word "Soapmakers," to imply that it manufactures soap or owns the plant where its soap products are made, when such is not the fact.

Cosmetic Concern Moves

Equipment and stock of Janie Lincoln Laboratories, Cosmetics, Tiffin, Ohio, were moved to Cleveland, July 2, following purchase by Janie Lincoln, Inc., recently incorporated by a Cleveland group. Offices will be located at 2010 Euclid Avenue. Founded 25 years ago by Mrs. Janie Lincoln Cole, now of Los Angeles, the business has recently been operated by her nephew, Leland H. Cole of Cleveland.

Chicago Golf Winners

Despite the intense heat, the July 8th tournament of the Golf Auxiliary of the Chicago Drug and Chemical and Chicago Perfumery, Soap and Extract Associations at the Bob-O-Link Country Club, drew more members and guests than either the May or June tourneys. Prize winners in each class were as follows: Class A—1st, E. F. Smith; 2nd, J. P. Bodevin; 3rd, T. Morgan; Class B—1st, F. Z. Woods; 2nd, H. A. Baumstark; 3rd, L. B. Gordon; Class C—1st, J. E. Smith; 2nd, L. A. Solo; 3rd, C. P. Van Schaack. Guest prizes were won by A. A. Lehman and Walter Eden. The next meet is scheduled for August 18th at the Glen Oak Country Club.

L. H. Schulties with Hewitt

Leonard H. Schulties, son of Martin F. Schulties, vice-president of the Hewitt Soap Co., has become associated with that firm as special



sales representative to the department and chain store trade in the New York Metropolitan area. Leonard Schulties is attached to the Eastern office of Hewitt in New York, working under his widely-known father. He graduated with the class of 1936 from the Wharton School of Business at the University of Pennsylvania. While at college, he was business manager of the "Pennsylvania." He is married and has a young daughter. Martin Schulties announces that he has already arranged for the enrollment of his son as a member of The Foragers, this "team" now constituting the first father-and-son membership in that organization.

Markets Miniature Soap

Reed Sanitary Supply, 4042 Main street, Kansas City, a newly organized concern, is placing on the market a miniature or guest soap for hotels.

Offers Bulk Soap Dispenser

Century Products Co., 20 E. 39th St., Kansas City, manufacturer of industrial soap products, has just placed on the market a soap dispensing device designed for use in hospitals, office buildings, garages and places where cleaning is done on an extensive scale. The device was originated by A. H. Rom, one of the company's salesmen, and patents

have been applied for. It is said to be different from anything of its kind in use. The dispenser is made in two sizes, 55 gallons and 30 gallon capacity. The drum contains concentrated soap materials and the larger one will furnish 60,000 gallons of cleaning material before exhausted. It is so equipped that the cleaning solution may be conveyed to any part of the building through hose equipment.

Soap Radio Time Gains

The soap industry ranked as the fourth largest user of radio time in 1935, according to a survey just completed by National Broadcasting Co. Soap makers spent \$2,075,901 on radio time in 1935, as compared with only \$90,759 ten years previously when the industry ranked tenth in the list of radio advertisers.

New Cosmetic Concern

French American Laboratories, cosmetic manufacturers, have leased the building at 3629 Main street, Kansas City, Mo., and started operations.

Cellophane Sponge

DuPont Cellophane Co. is manufacturing a new artificial sponge which it claims to be superior to the natural product. Made of highly-purified wood and cotton cellulose pulps, its sponge-like construction is obtained through chemical reactions. It is advertised as resistant to cleaning compounds, soaps, greases, etc., for waxing, oiling, and polishing, and is easily kept clean. When free of excess water it may be used like a chamois cloth to dry surfaces without streaking or scratching.

Bennett & Co. Add Space

Arthur E. Bennett & Co., Chicago, announce that they have doubled their space at their present address in order to take care of increased business. The additional floor space will be used in the manufacture of aromatics and flavors. J. B. Raeker has recently been appointed representative in the Minneapolis-St. Paul territory for Arthur E. Bennett & Co.

MUNN

NEWPORT
PALE WOOD ROSIN

Clean
- of Course

The man is yet to be found who can find any dirt in this finished rosin. And the man is yet to be found who can discover a way for dirt to survive the scientific processes of Newport. Munn never has had any foreign matter in it as long as it's been made. Munn never can have any in it as long as it is made.

No foreign matter in your raw materials means no foreign matter in your finished soap . . . and no lost motion in removing it during manufacture . . . no lost trade in case you don't.

Another advantage you can't get away from is the absolute uniformity of Munn. Each shipment is identical to the original standard set aside so many years ago. Periodic chemical and color tests prove it.

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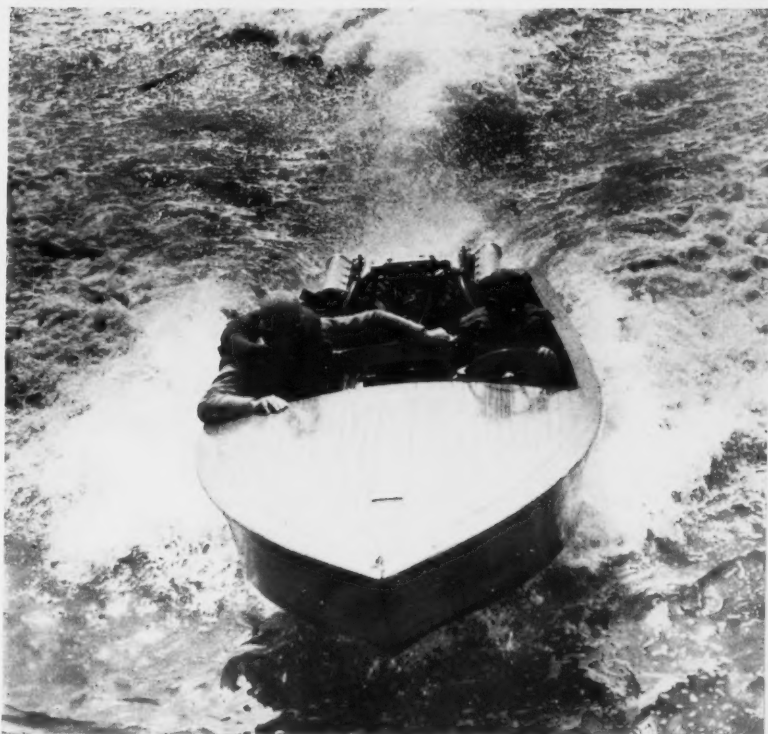
Dyke Addresses Advertisers

Ken R. Dyke, advertising manager of Colgate-Palmolive-Peet Co. and chairman of the board of the Association of National Advertisers, addressed the Advertising Federation of America in Boston last month on the subject of the national social effects of advertising. He called attention to the fact that many advertisers are conscious only of the immediate sales results of their advertising and are entirely ignorant of what may be the effect of their advertising on the national consciousness. He urged that a survey be undertaken by some independent and authoritative body to determine the extent of changes in public attitudes brought about by advertising. He warned also that the ultimate results of continuance of the present type copy commonly in use may mean a drastic loss of public confidence.

Haskins Loses Tax Appeal

Haskins Bros. & Co., Omaha, lost the latest round in their contest with the federal government over the 3 cent tax on Philippine coconut oil when the U. S. Court of Appeals for the District of Columbia affirmed on July 1 a lower court ruling that the government cannot be sued to repay the levy. Haskins had sued for \$160,879, charging that the tax was illegally collected. The decision of Justice Groner against the plaintiff was based on two points; the failure of the government to consent to the suit, and the court's opinion that Haskins had an adequate remedy at law.

This remedy, the court explained, is contained in the Revenue Act of 1926, which provides in part that the "Commissioner (of Internal Revenue), subject to regulations prescribed by the Secretary (of the Treasury), is authorized to remit, refund, and pay back all taxes erroneously or illegally assessed or collected, all penalties collected without authority, and all taxes that appear to be unjustly assessed or excessive in amount, or in any manner wrongfully collected."



A. L. Bobrick, president of the Bobrick Manufacturing Corp. of Los Angeles, Calif., at the wheel of his Gold Cup boat before the Gold Cup Regatta at Lake George, N. Y., on July 25, an event in which leading speed boat drivers take part. Engine trouble forced the withdrawal of seven of the eight entries just before the race, including the Bobrick boat.

The effect of this decision is to dissolve a temporary injunction, granted Haskins Bros. in the lower courts, restraining Federal officials from turning the taxes already collected over to the Philippine Government. Meanwhile the Treasury Department reports that these oil tax collections had reached a total of \$31,870,564.28 as of May 30. Officials indicated that none of this money will be turned over to the Philippines until validity of the levy has been finally decided by the Supreme Court.

Edward J. Burroughs, Jr., attorney for Haskins, said present plans are to take the case to the Supreme Court when that tribunal meets again in October.

Sustain Maine Law

In a decision handed down by the courts July 10 the constitutionality of the Maine Cosmetic Law was upheld in the action brought by Bourjois, Inc., to test the validity of the measure. The opinion of the court

was that the registration law was a legitimate exercise of the police powers of the state. It is understood that further appeal to the U. S. Supreme Court is not planned by Bourjois. Neither will the plaintiff register its products in the State of Maine, nor are other prominent cosmetic manufacturers planning to comply with the registration requirements, leaving this in many cases to local distributors.

Uphold Soap Union Members

In a hearing terminated recently before the National Labor Relations Board in Washington, fourteen members of the Soap and Edible Oil Workers' Union were ordered to be reinstated by the Vegetable Oil Products Co., from whose plant at Wilmington, Calif., they had been discharged. At a hearing in Los Angeles last winter it was brought out by the discharged men that their loss of jobs resulted from hostility of the company to their union connections.

Gone

. . . . is the "Jack-of-all-Trades" —

. . . to be replaced by the fellow who does one job and does it well, . . . and more important, knows what he is doing.

And going fast in the field of trade paper publishing is the "Jack-of-all-Trades" publication which "covers the world" . . . which reaches the butcher, the baker, and candlestick maker, or anybody else a prospective advertiser might want to reach . . . that is as long as the imagination of the advertising solicitor holds out.

Common sense tells us that no one trade publication can cover the whole field of chemicals, drugs, cosmetics, soaps, insecticides, disinfectants, perfumes, cigars, cigarettes, and chewing gum . . . and know what it is doing . . . or be able to include even a small degree of authoritative editorial intelligence . . . no matter what kind of claims (always without proof) are made by advertising solicitors.

SOAP does not "cover the world." It offers to advertisers an honest and genuine circulation in the field of soaps, insecticides, and allied sanitary specialties, . . . a circulation backed by membership in the A.B.C. (Audit Bureau of Circulations).

MAC NAIR - DORLAND COMPANY, INC.

Publishers

254 WEST 31st STREET

NEW YORK CITY

Production Men Organize

A meeting of production men in the soap, insecticide, cosmetic, drug specialty, food and liquor industries to form a national organization of production men for the interchange of ideas and information, was held at the call of Ernest E. Finch, general manager of Karl Kiefer Machine Co., at the Netherland-Plaza Hotel in Cincinnati on July 8th and 9th. This organization meeting was sponsored by twelve manufacturers of equipment serving the above industries. The first day was devoted to inspection trips to plants of four of the local sponsors. In the morning The Kiefer Machine Co., and R. A. Jones & Co. plants were visited. After luncheon at the Hyde Park Country Club, the factories of the United States Printing & Lithograph Co. and the Vulcan Copper & Supply Co. were inspected.

In the evening a banquet was attended by 98 superintendents and production managers at the Netherland-Plaza with Mr. Finch as toastmaster. He stressed the value and necessity for the interchange of ideas if the packaging industries are to continue their remarkable progress. He then called upon the representative of each of the twelve sponsors for brief remarks. Dr. R. A. Jones talked in his characteristic humorous vein and was especially well received.

William Bristol of Bristol-Myers Co., was introduced as one of the best posted men on production management problems in the country. Mr. Bristol tore a page from his diary of many years in production work in his half-hour talk. In concluding, he offered not only to show any visitors everything at his plant but his formulas as well "since they are no good to you anyway because you don't own our trademarks."

The meeting was resumed the morning of June 9th at the same place for the purpose of organizing a formal permanent organization, the National Association of Production Management. William Bristol was appointed chairman pro tempore. He appointed a committee with Howard

Sumner, of Norwich Pharmacal Co., chairman, and Louis Weiner of Hiram Walker & Sons, secretary, to draft a platform which was adopted. A



DR. R. A. JONES

nominating committee with Mr. Clark of Allied Products, chairman, named the usual four officers and also ten directors.

The four officers elected are: President, Wm. M. Bristol of Bristol-Myers Co.; Vice-President, Harold M. Bowman of Standard Oil of New Jersey; Secretary, Frank Zegers of E. R. Squibb & Sons; and Treasurer, H. F. Brownell of McKesson & Robbins.

The firms sponsoring the meeting were: Owens-Illinois Glass Co., Consolidated Packaging Machinery Corp., Taylor Instrument Co., Pfaudler Co., Anchor Cap & Closure Corp., The Reynolds Metals Co., Economic Machinery Co., R. A. Jones & Co., Vulcan Copper Works, U. S. Printing & Lithographing Co., Alvey-Ferguson Co., and Karl Kiefer Machine Co.

P. & G. Votes Extra Dividend

An extra dividend of $37\frac{1}{2}$ c per share in addition to the regular $37\frac{1}{2}$ c quarterly dividend has been voted by the board of directors of Procter & Gamble Co., payable August 15 to holders of record July 24. As the company has 6,325,087 shares outstanding, the quarterly dividend disbursement will total \$4,700,000. An extra dividend of 25 cents was paid in September last year, and an extra 20 cents in December, 1934.

Louisiana Law Exempts Soap

The new Louisiana State food, drug and cosmetic act, patterned on Senator Copeland's federal bill S-5, has been amended by the state senate to exclude from its restrictive provisions all soaps except those for which medicinal qualities are claimed. This move was made after strenuous protests by representatives of the soap industry relative to the original draft of the measure. The industry has also been successful in having eliminated from application of the 2 per cent retail sales tax all soaps the retail price of which is 10 cent or less per package or bar.

Bon Ami Earnings Up

Bon Ami Co. reports a net profit of \$587,753 for the first six months of 1936, comparing with a total of \$494,774 for the first six months of last year. The 1936 first half net equalled \$2.90 a share on 88,870 class A shares, as compared with \$2.41 a share on 87,000 class A shares for the same period of 1935.

Edwin Stern Dies

Edwin Stern, secretary-treasurer of Louis Stern's Sons, Inc., New York, producers of tallow and grease, died July 13 at the Beth Israel Hospital, Newark, N. J., after a brief illness. Mr. Stern was a member of the Produce Exchange and was chairman of the Tallow Futures committee. Out of respect to his memory, the market on the exchange closed at noon July 15, when the funeral was held at the Memorial Chapel with about 300 of his associates present. He had long been a member of the Oil Trades Association of New York and for several years was on the board of directors.

New Verley Price List

Albert Verley, Inc., Chicago essential oil house, has just published a new price list and catalog. The new book, which is of an unusual nature with striking illustrations and spiral binding, can be obtained by writing direct to the company or to the publishers of SOAP.

... a leading authority

on the manufacture of Drugs, Pharmaceuticals, Cosmetics, Toilet Preparations, Photographic Materials, Soaps, Fine Chemicals, Essential Oils, Perfumes, Dental Preparations, Patent Foods; Medicines in Liquid, Powder, Paste Pill and Tablet, Polishes, Antiseptics, Germicides, is

The MANUFACTURING CHEMIST

Cream and Liquid Face Powders

by G. H. ALLEN

Obsolescence in the Chemical Industry

by T. McLACHLAN

The Ageing of Perfumes

by J. AUGUSTIN

The Treatment of Foot-ache and Local Bromidrosis

by F. G. HOBART

Conditioned Air in the Drug Industry

by J. ENGELS

Skin Whitening Preparations: Their Composition and Manufacture

by H. STANLEY REDGROVE

Common Insecticides: Their Composition and Uses

by L. E. CAMPBELL

Avocado Oil

by R. BUSHBY

The Production of Odorous Substances by the Aid of Micro Organisms

by H. NICO!

Subscription

10/-

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Food Manufacture
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Food Industries Manual
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Chemical Industries
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LEONARD HILL LIMITED

17, Stratford Place, London, W. 1, ENGLAND

Mrs. Wm. Mennen Dies

Mrs. Lillian Mennen, wife of William G. Mennen, president of Mennen Co., Newark, N. J., died in Stockholm, Sweden, July 13. The Mennen family had sailed a short time before from New York, planning a tour of northern Europe.

Coty Names New Board

Coty, Inc., at a special meeting July 2nd named a new board of directors consisting of the following members: B. E. Levy, Paul Fuller, Robert Young, H. J. Egan and H. L. Brooks of New York; Roland Coty, Mme. L. Cotnareau and J. Gardon of Paris. The action was taken on petition of John T. Ryan of New York who holds 400 shares of capital stock of the company.

New Trademark Guide Out

The Toilet Goods Association, Rockefeller Center, New York, has just issued a new and revised volume listing 28,000 trademarks for soaps, perfumes and toilet preparations. The list includes unregistered as well as registered names, cross-indexed for easy reference. A preface provides a brief explanation of copyright laws. The book sells at \$25 per copy to the general public and at \$10 to members of the Toilet Goods Association.

Schimmel Officer in Europe

G. Keller, secretary and treasurer of Schimmel & Co., New York, essential oils, sailed for Europe on the S. S. *New York* last month, accompanied by Mrs. Keller and Dr. and Mrs. K. T. Keller. They planned to visit Germany, France, Spain and England, returning to New York late in August. Dr. Keller, who is production manager of Schimmel & Co., A. G., Miltitz bei Leipzig, will remain in Germany.

Glycerin from Rice

A cheap process of making glycerin from rice is reported to have been developed recently in Italy. According to the inventor 100 kilos of broken rice will yield 30.4 kilos of

glycerin, 7.8 kilos of ethyl alcohol and 7.1 kilos of vegetable casein. It is stated that negotiations are pending for the sale of the process for Italy to one of the largest Italian soap companies, a producer of crude glycerin. The inventors would like to get in touch with parties in the United States who may be interested in securing patent rights for this country. American firms may communicate with the inventors through the Chemical Division of the U. S. Bureau of Foreign and Domestic Commerce, Washington.

SOAP ADVERTISING

Advertising of soaps, especially toilet soaps, has been the object of various and sundry forms of humor from time to time. Granted that some soap advertising copy has strained a point or two,—but all in all, is it not in the public interest? Read a staff discussion of this subject in the September issue of SOAP.

Develops Black Soap Dye

A new black soap dye has just been developed by R. F. Revson of R. F. Revson Co., New York, in response to a demand for a product of this type by soap makers. The new dye is fast both to light and alkali, according to Mr. Revson. It has no adverse effect on the color of the soap lather, the new black soap giving a lather which is almost white. The new color has been named Soap Fast Black G.

Talks on Patman Bill

Members of the Drug, Chemical and Allied Trades Section of the New York Board of Trade heard an address by Burton A. Zorn on the Robinson-Patman Act at a meeting July 2. In discussing the implications of the new federal measure the speaker said "there is nothing more hazardous and nothing more dangerous to democratic institutions than an attempt to regulate a sphere of conduct which cannot be controlled."

Armour Official Dies

Harry G. Mills, vice-president and director of Armour & Co., Chicago, died in St. Luke's Hospital, New York, July 16, after an illness of several months. He was fifty years old and had been with Armour for the past twenty-five years.

Lower Honduras Soap Duty

Honduras has not been an important market for the sale of American soaps in the past. However, earlier this year a trade agreement between the United States and Honduras was negotiated, by which, among other things, the duties on American soaps were considerably reduced. Instead of duties ranging from L. 0.72 to L. 1.25 per gross kilo for toilet soaps, the agreement provides that "Bath and toilet soaps of all kinds (except medicinal soaps) perfumed or not, wrapped or unwrapped, packed in any form," will be assessed at the rate of L. 0.50 per gross kilo. (The Honduran unit of currency, the lempira, is valued at \$0.50.) Common soap, dutiable at the rate of L. 0.42 per gross kilo remains unchanged.

With Florasynth 20 Years

Charles L. Senior, Alexander Katz and Louis A. Rosett of Florasynth Laboratories, New York, essential oils, have all recently completed twenty years of service with this company.

Organize Cosmetic Firm

Lyman's, Inc., Cambridge, Mass., has just been organized by Ida S. Lyman, 4 Milton St., Dedham, Mass., to manufacture cosmetics, perfumes and toilet articles.

Continental Earnings

Continental Can Co., New York, reports a net income for the twelve months ending June 30th, 1936, of \$15,491,106, which after providing \$4,858,064 for depreciation and Federal taxes, leaves net earnings of \$10,633,042, equivalent to \$3.99 a share on 2,665,191 shares of common stock.

PRICE'S STEARIC ACID

TRIPLE PRESSED

PREPARED FROM
THE FINEST
MATERIALS AND
ENTIRELY FREE
FROM ADULTERANTS

PRICE'S triple pressed STEARIC ACID is used by leading manufacturers of the finest toilet preparations, shaving creams and toilet soaps.

Of guaranteed English manufacture, it is highly crystalline and white in color.

Melting point is 130°-133° Fahrenheit.

World famous for its unvarying uniformity in quality.

Packed in slabs of about one inch thickness in double burlap bags with a third protective inner bag forming a muslin liner.

Quotations for carloads or less upon application to exclusive American Representatives:

O R B I S

PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK - FACTORY & LABORATORY, NEWARK, N.J.

CHICAGO
844 Rush St.

PHILADELPHIA
253 Bourse Bldg.

BOSTON
131 State Street

LOS ANGELES
742 So. Hill St.

Water Soluble Gums
Filter Paper
Aromatics
Rice Starch

Waxes
Stearic Acid
Essential Oils
Zinc Oxide French

Cosmetic Raw Material
Oleo Resins
Perfume Bases
Olive Oil

Fruit Flavors
Food Colors
Quince Seed
Irish Moss



MANUFACTURED BY PRICE'S OF LONDON, ENGLAND

Soap Tax Regulations

The Maryland State Treasury Department has not as yet issued regulations covering the 10 per cent retail tax on toilet soaps which went into effect April 1. It seems probable now that no formal regulations will be issued. Any specific questions should be addressed to the office of the comptroller at Annapolis. The revenue department of the State of Kentucky has just issued regulations covering the new tax on cosmetics which also includes some soaps under its provisions. Copies of the regulations may be obtained by addressing the Association of American Soap & Glycerine Producers, New York.

Wirz Names New Agent

A. G. Spilker has been named as the new representative on the Pacific coast for the sale of tubes and tube accessories of A. H. Wirz, Inc., Chester, Pa. He will succeed W. I. Frost whose resignation is to take effect October 1. The new Wirz representative has had over twenty years experience in the tube business, giving him the proper background for handling Wirz sales and service in the Pacific coast territory.

Clarify Private Brand Tax

The question as to how to determine when the owner of a private brand soap manufactured by another is subject to the 5 per cent excise tax has been clarified somewhat in a recent verbal interpretation given to Roscoe C. Edlund, secretary of the Association of American Soap & Glycerine Producers, by an official of the U. S. Bureau of Internal Revenue. In general the following course is followed:

The soap maker pays the tax on soap made for the owner of a private brand, if the owner of such brand does not fix specifications or supply ingredients which distinguish the brand from similar products.

If the owner of the private brand does fix specifications or supply ingredients which distinguish the brand from similar products, then he rather than the maker, may to all intent and purpose be the manufacturer and be subject to the tax.

However, the Treasury is careful to point out that no general rule can be controlling under all circumstances, and that decision in each instance must necessarily rest upon the particular facts. Where in any particular case, the soap maker has question as to whether he or the private brand owner is liable to the tax, it is suggested that the facts in the case be placed before the Bureau of Internal Revenue at Washington for decision.

AUTO POLISHES

Which type of polish for automobiles? There are no end of them on the market, but are they right or wrong in their composition? Read a discussion about automobile polishes in the next issue of SOAP by Ralph H. Auch, chief chemist for the American Products Company, — composition, characteristics, uses, and marketing.

Soap Employment Index

The index of employment in the soap industry stood at 98.0 in June, 1936, as compared with 97.5 in May and 99.5 in June, 1935. The above figures are based on the three year average for the period 1923-1925 taken as the 100 mark. The pay-roll index registered 96.7 in June, 1936, as compared with 95.7 in May and 95.8 for June, 1935.

Hollwedel with Turner

Charles N. Hollwedel, on the sales staff of Warner Chemical Co., New York, for the past twelve years, and prior to that time with Grasselli Chemical Co., will become associated with Joseph Turner & Co., New York, chemical manufacturers, August 3.

Pompeian Acquires Laco

Pompeian Olive Oil Corp., Baltimore, has just acquired control of Laco Products, Inc., Waltham, Mass. They will shortly bring out a new olive oil castile soap.

Check Saddle Soap Claims

R. M. Hollingshead Corp., Camden, N. J., and Service Legging Co., New York, have just signed separate stipulations on request by the U. S. Federal Trade Commission agreeing to discontinue using on labels the statements "Warranted to Conform to U. S. Govt. Specifications" and "U. S. Government Standard Saddle Soap" to imply that such products are approved and used as a general standard by the United States Government. The stipulations provide that the respondent companies may represent that their saddle soap conforms with the specifications approved and used by some particular branch of the Federal Government, only when such is the fact.

Griffin Uses Girl Band

Griffin Mfg. Co., Brooklyn, is sponsoring a series of appearances of a fourteen-piece girl band this summer in amusement centers to advertise its "All-White" shoe cleaner. The band travels in a white motor coach and appearances are tied in with local merchandising promotions.

Johnson Advances Ramsey

S. C. Johnson & Son, Racine, Wis., have just named John R. Ramsey as general manager of the company. Mr. Ramsey has been in the sales department.

Roman Cleanser Builds

Roman Cleanser Co., Detroit, will start construction of a new factory, office and garage shortly. The new plant will be located on East Six Mile Road, Detroit.

Mazda Prods. Moves

Mazda Products Co., soaps and sanitary supplies, formerly located at 623 St. Clair Ave., West, Cleveland, has moved recently to 1849 West 24th St.

Nederman Mothproofing Moves

Nederman Mothproofing Service, formerly located at 4055 Broadway, Kansas City, has just moved to 117 Westport Road.

GERANIOL for SOAP

**In various gr des to meet
every requirement as to price**



A. M. TODD COMPANY
KALAMAZOO, MICH.

Business established in 1869

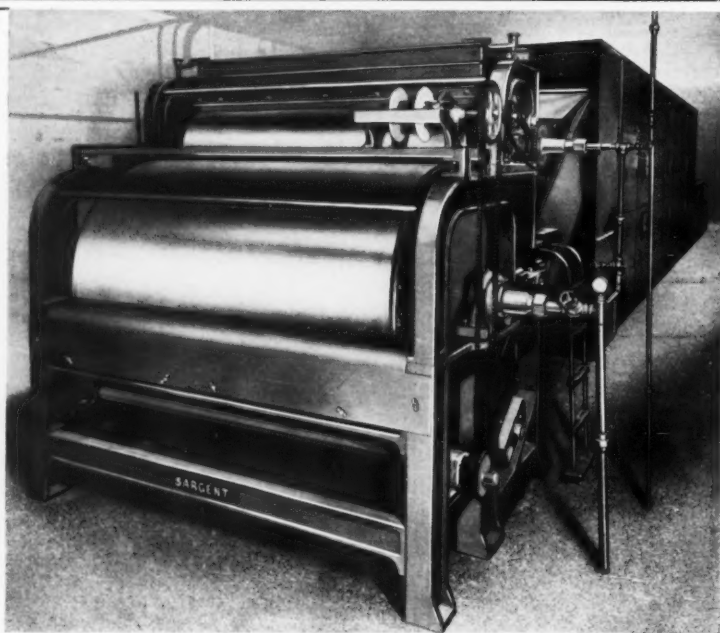
New!...

*a Soap Chilling Roll
and Drying Machine*

AS the title indicates, the Rolls are **NEW** and the entire machine is **NEW**, many valuable improvements having been perfected until this latest Sargent development is now one of the very finest Rolls obtainable.

To the soap manufacturer, the most important angle is to have a *thin, uniform chip* . . . readily accomplished by these new Rolls being expertly machined, ground and set. Finest grade of cast iron. Vari-speed controls on

both Rolls insures easy adjustment . . . every part accessible. Drive improvements reduce the horsepower used. Changes made at a minute's notice. The Dryer is entirely re-designed. Its housing gives better insulation and cuts down steam consumption per hour. Other valuable changes have been made in the circulating and exhaust air systems . . . and all fans are *direct motor driven*.



C. G. SARGENT'S SONS CORP. GRANITEVILLE
MASS., U. S. A.

Mennen Sales Mgr. Dies

Frank G. Abbott, sales manager of Mennen Co., Newark, N. J., died at his home in Short Hills, N. J., July 3, following a two months' illness. Mr. Abbott had been with the Mennen company for the past three years and prior to that time was an executive in the McKesson & Robbins organization. He was fifty-five years old.

Oil and Fat Prices Hold

The oils and fats price index, as compiled by the Bureau of Raw Materials for American Vegetable Oils and Fats Industries, registered 97.8 in June, the same as May. This index stood at 104.8 in June of 1935. The index numbers of various oils and fats for the months of May, 1936; June, 1936, and June, 1935, are as follows, based on the 1909-1914 average as 100:

| | June 1936 | May 1936 | June 1935 |
|-----------------------------|--------------|-------------|--------------|
| Corn oil . . . | 128.9 | 130.4 | 143.6 |
| Cotton oil . . | 140.1 | 135.9 | 158.7 |
| Coconut oil* | 42.9 | 42.9 | 47.6 |
| Grease | 70.6 | 63.0 | 106.1 |
| Olive oil . . | 89.9 | 88.8 | 98.9 |
| Olive oil foots | 115.4 | 113.7 | 113.3 |
| Palm oil* . . | 48.9 | 50.3 | 57.8 |
| Palm kernel oil* | 54.6 | 54.6 | 48.7 |
| Tallow | 71.0 | 60.8 | 95.4 |
| Whale oil . . | 107.9 | 113.3 | 116.9 |

*Tax not included.

Cotton Oil Stocks

Stocks of refined cottonseed oil on hand in United States as of June 30, 1936, totaled 408,965,360 lbs. as compared with 513,357,805 lbs. on the same date last year. Stocks of crude cotton oil were 36,147,397 lbs., June 30, 1936, as compared with 35,036,458 lbs. June 30, 1935.

Gets Lava Soap Account

Procter & Gamble Co. has appointed Blackett-Sample-Hummert, Inc., to handle the advertising of "Lava" soap.

Contracts Awarded

Chicago Soap Award

John Sexton & Co., Chicago, have been awarded a contract for 16,000 lbs. grit soap by the Chicago U. S. Army Quartermaster at a price of 1.8c. Emery Industries, Cincinnati, awarded 12,000 lbs. candles at 8.7c.

Insecticide Award

R. M. Hollingshead Corp., Camden, N. J., was awarded a contract covering 2,000 drums insecticides for the Brooklyn Medical Department in a recent bidding at a price of \$3.20 per gal.

Ft. Peck Soap Awards

Awards have been made as follows in a bidding opened recently by the engineer at Fort Peck, Montana: Swift & Co., St. Paul, 1,500 lbs. mechanics' soap at \$96.58, and 4,500 lbs. toilet soap at \$313.55; Armour & Co., Chicago, 12,000 lbs. laundry soap at \$462 and 500 lbs. washing powder at \$143.50.

Brooklyn Soap Awards

Awards have been made as follows by the Brooklyn U. S. Army Quartermaster in a recent bidding: General Soap Co., 32,813 lbs. toilet soap, 6-oz., 6.23c lb.; Swift & Co., 3,750 lbs. toilet soap, 2-oz., 7.76c lb.; John T. Stanley Co., 4,500 lbs. grit soap, 2.95c lb.; Procter & Gamble Distributing Co., 750,000 lbs. laundry soap, 2.84c lb.; Grasselli Chemical Co., 400,000 lbs. trisodium phosphate, 1.9c lb.; Day & Frick, 60,938 lbs. grit soap, 3.2c; Pennsylvania Salt Mfg. Co., 90,000 cans caustic soda, 4.42c; and J. L. Prescott Co., 46,875 lbs. stove polish, 7.6c lb.

Bklyn. Laundry Supplies

Awards have been made as follows in a recent bidding for laundry supplies conducted by the Brooklyn U. S. Army Quartermaster: Armour & Co., 10,000 lbs. soap, 5.25c; 5,000 lbs. do, 5.194c; Sterling

Products Co., 150 lbs. sour, 10.75c; John T. Stanley Co., 1,600 lbs. soda, 5.37c; 6,000 lbs. soap, 5.1c; John A. Chew Co., 9,000 lbs. soda, 1.55c; 12,000 lbs. do, 1.49c; Am. Cyanamid & Chemical Corp., 3,600 lbs. laundry soda, 2.035c; 1,400 lbs. do, 1.68c.

Rock Island Soap

In a recent bidding covering 6,000 lbs. laundry soap and 3,750 lbs. toilet soap, opened by the engineer at Rock Island, the award was made to Armour & Co., Chicago, on a bid of \$417.30.

Bklyn. Toilet Kit Awards

In a bidding opened recently by the Brooklyn U. S. Army Quartermaster, Trade Laboratories were awarded contracts covering 100,000 tubes of shaving cream at 3.589c and 100,000 tubes of tooth paste at 2.79c. J. Eavenson & Sons, Camden, N. J., were awarded 100,000 cakes toilet soap at 1.14c.

Offers New Spot Remover

B. F. Goodrich Co., Akron, Ohio, is introducing a new spot remover for cleaning furniture, upholstery, draperies, clothing, etc. The product is supplied in a container equipped with the "Vulcotop" automatic applicator.

Lemon Soap Co. Moves

Lemon Cream Hand Soap Co., Chicago, has moved its offices recently from 1720 W. Diversey Parkway to 2949 Lincoln Ave.

Modern Soap Moves

Modern Soap Co., formerly located at 2804 S. Keeler Ave., Chicago, has recently occupied new quarters at 2452 W. 60th St.

Packer Names Agent

Packer Mfg. Co., New York, has appointed Stack-Goble Advertising Agency to handle the advertising of "Packer's Tar Soap."

RAW MATERIALS

ALCOHOL
AMMONIA
BLEACHING POWDER
BORAX
BICARBONATE OF SODA
CALCIUM CHLORIDE
CARBON TETRACHLORIDE
CAUSTIC SODA
CAUSTIC POTASH
DYES
DISODIUM PHOSPHATE
GLAUBERS SALTS
GLYCERINE
METASILICATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
TRISODIUM PHOSPHATE



A CONVENIENT SOURCE OF SUPPLY

for the Soap and Allied Industries
Every raw material necessary for the manufacture
of soap and allied products is carried in stock, and
available at the right price for immediate delivery
to your door.

Check over our list of raw materials and have us
quote on your requirements.

(Members of New York Produce Exchange)

CAUSTIC SODA
CAUSTIC POTASH

liquid . . flake . . solid

CASTOR OIL
COCOANUT OIL
CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID-RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
PEANUT OIL
RAPESEED OIL
ROBIN
SALAD OIL
SOYA BEAN OIL
SESAME OIL
TEASEED OIL
WHITE OLEINE
FATTY ACIDS
STEARINE
STEARIC ACID
GREASE
TALLOW

COCOANUT
OIL
TALLOW

EASTERN INDUSTRIES, INC.

VEGETABLE OILS, ANIMAL OILS, FATS, CHEMICALS

125 Bergen Street.

Harrison, N. J.

OLIVE OIL
FOOTS
OLIVE OIL

WHICH IS YOURS?

Ask Yourself these Questions about YOUR Container

BENETCO Steel Drums and Pails
for all Liquids, and Semi-solids, combine these
essential factors to give you the IDEAL shipping
and storage containers.

★ AGITATOR DRUMS—These drums are avail-
able with various styles of agitators for thoroughly
mixing contents.

Give your product the added protec-
tion and sales prestige of these
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New Trade Marks

The following trade-marks were published in the July issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

NUTRENE—This on reverse plate describing soap for dry cleaning solvents. Filed by Band Box Corp., St. Louis, Jan. 25, 1936. Claims use since Aug. 13, 1935.

KAROL—This in outline letters with sketch of three camels, describing shaving cream. Filed by Karol Preparations, Inc., New York, Apr. 4, 1936. Claims use since Dec. 18, 1935.

FOSKLOR—This in solid letters describing detergent and germicide. Filed by Warner Chemical Co., New York, Apr. 23, 1936. Claims use since Apr. 18, 1936.

BUCKET MAGIC—This in solid letters with outline of bucket, describing cleaning compound. Filed by Royal Products Co., Council Bluffs, Iowa, Apr. 29, 1936. Claims use since Nov. 5, 1935.

LION—This in solid letters with sketch of lion describing cleansing preparation. Filed by Lyon Specialty Co., New York, May 20, 1936. Claims use since Nov. 1, 1906.

BUGRIEF—This in solid letters describing insecticide. Filed by James B. McComb, New York, Apr. 11, 1936. Claims use since Apr. 4, 1936.

MERC-CURA—This in solid letters on shield describing germicide. Filed by Mer-Kil Products Co., Hollywood, Cal., Apr. 13, 1936. Claims use since Apr. 6, 1936.

G-MAN—This in solid letters describing insecticides. Filed by Service Products Co., Chicago, Apr.

17, 1936. Claims use since Mar. 20, 1936.

MOTH-PEL—This in solid letters describing insecticides. Filed by Insecticide Research Bureau, Chicago, Apr. 20, 1936. Claims use since Apr. 1, 1936.

ALDARSONE—This in solid letters describing bactericides. Filed by Abbott Laboratories, North Chicago, Apr. 21, 1936. Claims use since May 1, 1935.

BRUSHFIT—This in solid letters describing tooth powder. Filed by Glen S. Humphrey, Brooklyn, Apr. 22, 1936. Claims use since Mar. 9, 1936.

SANILAC—This in solid letters describing wax polishing preparations. Filed by Socony-Vacuum Oil Co., New York, May 15, 1936. Claims use since Jan. 31, 1936.

ALBU-LAN—This in solid letters with sketch of woman's head, describing soap. Filed by American Hair & Scalp Institute, Los Angeles, Mar. 16, 1936. Claims use since Dec., 1934.

SANIPHONE—This in solid letters describing cleaning fluid for use on telephones. Filed by Sanford Mfg. Co., Chicago, Apr. 6, 1936. Claims use since Mar. 26, 1936.

SANSOIL—This in broken letters describing detergent. Filed by Pennsylvania Salt Mfg. Co., Philadelphia, May 14, 1936. Claims use since May 5, 1936.

LINCO—This in outline script describing insecticides. Filed by Linco Products Co., Pittsburgh, Nov. 4, 1935. Claims use since Feb. 5, 1935.

BLONDALURE—This in solid letters describing shampoo. Filed by Herman C. Vernick, Newark, N. J., Mar. 30, 1936. Claims use since Mar. 1, 1935.

EDVICINE—This in heavy script describing disinfectant and antiseptic preparations. Filed by Edvic Importing Co., Brooklyn, Apr. 2, 1936. Claims use since Mar. 2, 1936.

MOTH-SAN—This in heavy block letters describing moth-proofing compound. Filed by Huntington Laboratories, Huntington, Ind., Apr. 23, 1936. Claims use since Dec. 1, 1935.

SOUTHERN HOME—This in outlined letters with sketch of cottage describing ammonia, bleaches and insecticides. Filed by Florida Specialties, Hialeah, Fla., May 15, 1936. Claims use since Apr., 1934.

JIFF-O—This in solid letters describing furniture polish and cleaner. Filed by Jiff-O Mfg. Co., Mount Vernon, N. Y., May 7, 1936. Claims use since Sept., 1928.

IRISH CLEANSER—This in solid letters describing cleanser. Filed by Frank H. Lampe, Los Angeles, Mar. 7, 1936. Claims use since Feb. 28, 1936.

AMAZE—This in solid letters describing cleaning and spotting fluid. Filed by Amaze Laboratories, Chicago, Apr. 3, 1936. Claims use since Jan. 21, 1936.

TOWN AND COUNTRY—This in solid letters describing soaps and shaving cream. Filed by Houbigant, Inc., New York, May 6, 1936. Claims use since May 1, 1936.

BESCO—This in solid letters describing soap. Filed by Beach Soap Co., Lawrence, Mass., May 16, 1936. Claims use since January, 1933.

BLUE LIGHTNING—This in heavy script describing liquid cleaner. Filed by Bennett Mfg. Co., Seattle, Wash., May 26, 1936. Claims use since Sept. 1, 1934.

C C C—This in solid letters describing insecticides, fungicides and weed killers. Filed by Chipman Chemical Co., Bound Brook, N. J., Jan. 15, 1936. Claims use since Feb. 13, 1935.

URO-CHLOR—This in outline letters describing urinary antiseptic. Filed by Van Pelt & Brown, Inc., Richmond, Va., Apr. 6, 1936. Claims use since Mar. 10, 1936.

DUST MASTER—This in solid letters describing liquid and wax polishes. Filed by C. J. Ostdiek Mfg. Co., Minneapolis, Apr. 20, 1936. Claims use since Sept. 10, 1935.

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... now make them applicable to many production problems for which they have not previously been considered.

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GUM ARABIC — *Sorts, Grain, Powder, Granular and Crushed*

GUM KARAYA — *Sorts, Crystals, Powder*

TRAGACANTH — *Ribbon, Flake, Granules and Powder*

LOCUST BEAN GUM — *Powder 50/100/150 mesh*

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LIQUID SHAMPOO BASE

Coco Oil 60%
Olive Oil 60%
Natural, Opal, Green

LIQUID SOAPS
Coconut..10%-15%
20%-40% Concentrate
Colored and Perfumed

SCRUBBING SOAPS

Pine-Sassafras
Plain

**LIQUID
SHAMPOOS**
Coconut Oil-30%-45%
Olive Oil-30%
Castile-30%

POWDERED SOAPS

Castile U.S.P.
Coco Castile 50-50
Pure Coconut
Pure Palm

POTASH SOAPS
Soft and Hard
U.S.P. 9th and 10th

HARD AUTO SOAPS

Kranich Standard Soaps are manufactured and produced entirely in our own factory. All our oils and fats are processed and purified before use. All alkalies are dissolved and settled to remove impurities. All our processes are technically supervised and a chemical analysis made on all finished products to assure satisfaction to our trade.

KRANICH SOAP CO., Inc.

54-60 RICHARDS ST., BROOKLYN, N.Y.

PEMBRO—This in solid letters describing antiseptic. Filed by Hawthorn Drug Co., St. Louis, Apr. 17, 1936. Claims use since Feb. 15, 1936.

VITA-COL—This in solid letters describing tooth paste. Filed by Universal Brands, Inc., New York, May 6, 1936. Claims use since Mar. 5, 1936.

Trade Marks Granted

336,154. Dry Cleaning Paste Soap. Midland Chemical Laboratories, Inc., Dubuque, Iowa. Filed February 3, 1936. Serial No. 374,424. Published April 14, 1936. Class 4.

336,187. Washing Powder, Paste Soap, Scouring Powder and Detergents. Cunningham Cleanser Corp., New York. Filed January 2, 1936. Serial No. 373,285. Published April 14, 1936. Class 4.

336,189. Wax for Polishing Wood, Metal and Other Surfaces. S. C. Johnson & Son, Racine, Wis. Filed February 10, 1936. Serial No. 374,666. Published April 21, 1936. Class 16.

336,295. Toilet Soaps and Shaving Creams. Shulton, Inc., New York. Filed February 26, 1936. Serial No. 375,273. Published April 21, 1936. Class 4.

336,296. Shaving Soap, Toilet Soap, Bath Soap, Cream Soap, Silver Cleaning Soap. Ferd. Mulhens, Inc., New York. Filed February 26, 1936. Serial No. 375,263. Published April 14, 1936. Class 4.

336,444. Disinfectant and Antiseptic Preparations. Dow Chemical Co., Midland, Mich. Filed October 21, 1935. Serial No. 370,603. Published April 21, 1936. Class 6.

336,471. Antiseptic, Deodorant, and Germicide in Tablet Form. B. H. M. Co., Los Angeles. Filed February 10, 1936. Serial No. 374,650. Published April 14, 1936. Class 6.

336,511. Liquid Wax Polish. S. C. Johnson & Son, Inc., Racine, Wis. Filed May 4, 1935. Serial No. 364,545. Published April 28, 1936. Class 16.

336,580. Water Softener. Gramercy Chemical Co., New York. Filed February 20, 1936. Serial No. 375,048. Published April 28, 1936. Class 6.

336,658. Soaps. Kerk Guild, Inc., Utica, N. Y. Filed September 10, 1935. Serial No. 369,159. Published April 28, 1936. Class 4.

336,725. Mineral Soap Cleanser. Lite Soap Co., Aurora, Ill. Filed February 28, 1936. Serial No. 375,317. Published April 28, 1936. Class 4.

336,825. Cleaning Compound. Chrisman Supply Co., Fayetteville, N. Y. Filed February 3, 1936. Serial No. 374,351. Published May 12, 1936. Class 4.

336,844. Insecticides, Germicides, and Disinfectants. Fumol Corp., New York. Filed March 8, 1935. Serial No. 362,254. Published May 12, 1936. Class 6.

336,846. Chemical Detergents. General Chemical Co., New York. Filed March 3, 1936. Serial No. 375,504. Published May 12, 1936. Class 4.

336,862. Shoe Polishes and Cleaners. Carioca Mfg. Co., Philadelphia. Filed November 21, 1935. Serial No. 371,815. Published May 5, 1936. Class 4.

336,900. Detergent Preparations. National Aniline & Chemical Co., New York. Filed March 3, 1936. Serial No. 375,516. Published May 12, 1936. Class 4.

336,964. Cleanser. Vivo Chemical Co., Beaver Falls, Pa. Filed January 22, 1936. Serial No. 373,982. Published May 12, 1936. Class 4.

Patterson Buys A. F. Brown

Patterson Foundry & Machine Co., East Liverpool, Ohio, has just taken over by purchase the business of A. F. Brown Co., New York, makers of ball and mushroom grinders and mixers. This complete line will now be manufactured at the East Liverpool plant of Patterson Foundry.

Soap Industry in Russia

Since 1925, not only the existing pre-war soap plants, but many new ones, have been opened in Russia. The industry has extended to include oil-milling, seed-crushing, oil-refining, fat-splitting and glycerine recovery, fatty acid distillation and synthesis, and fat hydrogenation. The amount of scientific research undertaken in Russia has been remarkable, as made evident in the scientific literature of that country. For example the synthesis of fatty acids has been established on a large-scale basis. The factory recently started at Kasan for the synthesis of fatty acids from petroleum products is said to have produced at least 2,000 tons last year. Another large plant will shortly be opened at Gorky. It is anticipated that the total capacity output of synthetic fatty acids from these two factories will be 20,000 tons per year.

China clay is advocated as a soap filler and large deposits of china clay near Moscow will undoubtedly be used for this purpose. In 1935 no less than 16,000 tons of naphthenic acids were used in soap making. The estimated output of soap in Russia for 1936 is 600,000 tons of household soap and 60,000 tons of toilet soap. Nearly all of the machinery and apparatus required by this industry is now manufactured in Russia. *The Chemical Age* 34, 518 (1936).

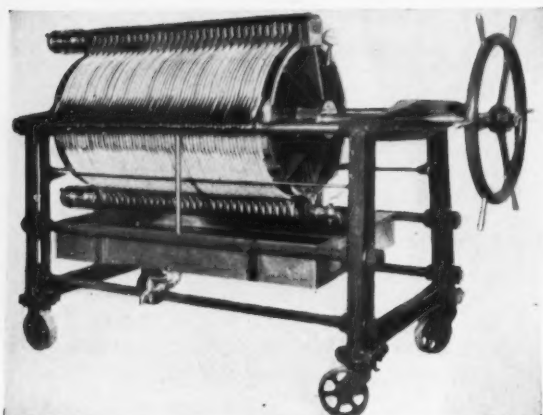
New Soviet Cosmetics

The Perfumery and Cosmetics Trust, Tezhe, will open a new perfume and cosmetics factory in 1936, built at a cost of 75 million rubles, on the outskirts of Moscow. The Tezhe Trust has sixteen factories at present operating in the U. S. S. R., mostly on toilet soaps.

Wants Soap Agency

A concern in London, England, is interested in obtaining an agency for sale of American household soaps. Interested parties may communicate through the U. S. Bureau of Foreign & Domestic Commerce, mentioning inquiry No. 1112.

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ERTEL SUPER FILTER

• People will not buy cloudy liquid soaps and shampoos, even though they may do the work just as well. If you want to make clear, sparkling products, send us a sample of your cloudy liquid and let us show you what an Ertel Filter can do. They are built in all sizes, suitable for any capacity . . . and do an equally good job on fly spray.

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Dept. C, 120 E. 16th St. New York, N. Y.

Ertel Portable Vacuum Bottle Filler



**CAPACITY 2
GALLONS PER
MINUTE**

• Plug it into any light socket. Accurate. Speedy. Dependable. Economical. Adjustable handle for all types of bottles.

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Disk Filters, Neutral Asbestos Filter Sheets, Portable Mixers, Portable Vacuum and Semi-Automatic Multiple Spout Vacuum Bottle Fillers, Bottle Capping Equipment, and Stainless Steel or Glass Lined Tanks.



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MANUFACTURERS
OF

SOAPS

INSECTICIDES

DISINFECTANTS

PARA BLOCKS

THEATRE SPRAYS

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Manufactured by us—every step of the process carefully controlled. Terpinyl Acetate has been one of our specialties for years. Our quality has set a high standard. 98° ester content.

Schimmel & Co., Inc.

601 West 26th Street

New York, N. Y.

Raw Material Markets

(As of July 27, 1936)

NEW YORK—The principal development of the period in the market for soap raw materials was the continued advance in quotations on the whole list of oils and fats. Following the passage of the Bailey amendment last month buying interest has been aroused in the market and demand has been well sustained over recent weeks. Tallow advanced another three-quarters of a cent a pound this period, greases moved a full cent higher and coconut oil showed a gain of three-quarters of a cent a pound.

Another important development was the sharp advance in quotations on all grades of glycerin, with prices showing the greatest gains that have been registered in years. Some refiners are reported to have sold substantial quantities of glycerin for future delivery with prices based on expectation of being able to get sufficient raw material from soap recovery. Offerings from the soap industry, however, have been light; and these refiners have been forced to pay sharp premiums in the open market for crude. Another factor in back of the advance is the heavy buying of glycerin for foreign account. Since the United States raised its embargo on war supplies, Italy has been an important buyer of glycerin in the local market.

The lifting of trade restrictions with Italy has also been followed by substantially higher prices on Italian essential oils, namely bergamot, lemon and orange. Oils quoted lower this period include the two Chinese products, anise and cassia. Another development of the period was a sharp cut in the price of citronellal in continuance of the severe competitive situation which has prevailed in the aromatic chemical market over recent months.

OILS AND FATS

Coconut Oil

Copra and coconut oil were both stronger in the primary markets this period and added strength was lent to the market by the increase in buying reported on the part of foreign consumers. The current quotation on New York tanks of Manila oil is $4\frac{3}{4}$ c per lb.

Corn Oil

Strength in grain markets, resulting from the severe middle-western drought, contributed to the rise in corn oil this period. Mill tanks are currently quoted at a nominal figure of $9\frac{1}{4}$ c per lb., an advance of a cent and a quarter a pound from last month's close.

Grease

The advance in competing commodities lent added strength to the grease market this period, and various grades showed advances ranging up to a cent a pound. At the close house and yellow grease were quoted from $5\frac{3}{8}$ to $5\frac{5}{8}$ cents per lb.

Palm Oil

This market has been rather quiet over the past few weeks in the midst of a series of advances in other soap oils. Palm oil was up only a quarter of a cent a pound, with the current range extending from $4\frac{1}{4}$ to $4\frac{1}{2}$ cents per lb. Offerings were light on spot and for shipment.

Tallow

Tallow was one of the strongest features in the list. Large buyers seem to have re-entered the market over the past six weeks and substantial quantities of tallow have continued to move at increasingly higher levels. Offerings have been light on the rise. The current level of the market is around $6\frac{1}{8}$ cents per lb. for city extra.

PERFUMING MATERIALS

Anise Oil

A further reduction in anise oil was noted this period, as offerings

of shipment oil from the primary market started to come in once more in more normal volume. The current level of prices is based around 50 cents per lb.

Bergamot Oil

With the nations of the world resuming trade relations with Italy once more, bergamot quotations made a series of gains over the period just closed and the market now ranges between \$2.20 and \$2.50 per lb., an advance of 30 cents from the low level of last period.

Cassia Oil

In line with lower quotations in the primary market, the spot price of cassia oil dropped again this period. The current price range is between 92 and 95 cents per lb.

Lemon Oil

The lifting of sanctions against Italy also contributed to a sharp rise in the price of Italian lemon oil this period. The current range is from \$1.75 to \$2.50 per lb., an advance of 45 cents from the price quoted a month ago. Orange oil showed a similar gain.

Thyme Oil

With civil war raging in Spain, the price of all Spanish essential oils rose sharply. Both red and white thyme oil were advanced in the local market, and the inside prices are now 68 and 80 cents per lb. respectively.

COAL TAR PRODUCTS

The shortage in cresylic acid continues in the acute stage and the market is a problem in supply rather than price. Both domestic and imported material advanced in price this period and the current quotation on disinfectant grade acid now ranges between 73 and 75 cents per gal. The low boiling grade is held at an additional premium of 5 cents per gal.

CRESYLIC ACID

AROMATICS

| | |
|----------------------|-----------------------|
| PHENYL ETHYL ALCOHOL | BENZYL ACETATE |
| GERANIOL | BENZYL ALCOHOL |
| CITRONELLOL | BENZOPHENONE |
| ACETOPHENONE | AMYL CINNAMICALDEHYDE |

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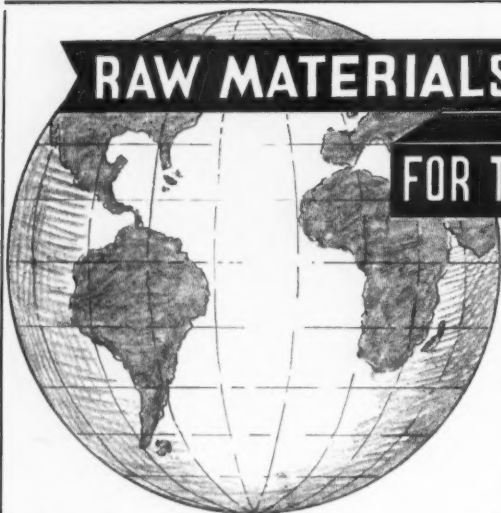
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TORONTO, CANADA

RAW MATERIALS

FOR THE SOAP INDUSTRY

FROM ALL PARTS OF THE WORLD

OLIVE OIL
OLIVE OIL FOOTS



YOU cannot control the weather but you can control the
standard of your raw materials by buying from a house
which has supplied the best to the trade for nearly a century.

Castor Oil
Cocoanut Oil
Corn Oil
Cottonseed Oil
Palm Oil
Palm Kernel Oil

Peanut Oil
Perilla Oil
Rapeseed Oil
Sesame Oil
Soya Bean Oil
Teaseed Oil

Fatty Acids
Lard Oils
Neatsfoot Oil
Oleo Stearine
Stearic Acid
White Olein

Tallow
Grease
Lanolin
Caustic Soda
Soda Ash
Caustic Potash
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Sal Soda

Modified Soda
Silicate Soda
Metasilicate
Tri Sodium Phosphate
Di Sodium Phosphate
Chlorophyll
"CEREPS" Superfatting
Agent

WELCH, HOLME & CLARK CO., Inc.

563 GREENWICH STREET, NEW YORK CITY

Established 1838

Raw Material Prices

(As of July 27, 1936)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

| | | | |
|--|----------|--------|---------|
| Acetone, C. P., drums | lb. | \$.11 | \$.12½ |
| Acid, Boric, bbls., 99½% | ton | 95.00 | 100.00 |
| Cresylic, drums | gal. | .73 | .75 |
| Low boiling grade | gal. | .78 | .80 |
| Oxalic, bbls. | lb. | .11½ | .12¼ |
| Adeps Lanae, hydrous, bbls. | lb. | .16 | .18 |
| Anhydrous, bbls. | lb. | .17 | .19 |
| Alcohol, Ethyl, U. S. P., bbls. | gal. | 4.13 | 4.25 |
| Complete Denat., SD 1, drums, ex. gal. | gal. | .33 | .43 |
| Alum. Potash lump | lb. | .03¼ | .03½ |
| Ammonia Water, 26°, drums, wks. | lb. | .02½ | .02¼ |
| Ammonium Carbonate, tech., bbls. | lb. | .08 | .12½ |
| Bleaching Powder, drums | 100 lb. | 2.25 | 2.60 |
| Borax, pd., cryst., bbls., kegs. | ton | 50.00 | 55.00 |
| Carbon Tetrachloride, car lots. | lb. | — | .05¼ |
| L. C. L. | lb. | .07 | .08½ |
| Caustic, see Soda Caustic, Potash Caustic | | | |
| China Clay, filler | ton | 10.00 | 25.00 |
| Cresol, U. S. P., drums | lb. | .10 | .10½ |
| Creosote Oil | gal. | .12½ | .13½ |
| Feldspar (200 to 325 mesh) | ton | 14.00 | 15.00 |
| Formaldehyde, bbls. | lb. | .06 | .07 |
| Fullers Earth | ton | 15.00 | 24.00 |
| Glycerine, C. P., drums | lb. | .15½ | .17 |
| Dynamite, drums | lb. | .15½ | .16 |
| Saponification, drums | lb. | .14 | .15 |
| Soap lye, drums | lb. | .13 | .14 |
| Hexalin, drums | lb. | — | .30 |
| Kieselguhr, bags | ton | — | 35.00 |
| Lanolin, see Adeps Lanae. | | | |
| Lime, live, bbls. | per bbl. | 1.70 | 2.20 |
| Mercury Bichloride, kegs. | lb. | .71 | .76 |
| Naphthalene, ref. flakes, bbls. | lb. | .07¼ | .07½ |
| Nitrobenzene (Myrbane) drums | lb. | .09 | .11 |
| Paradichlorobenzene, bbls., kegs. | lb. | .16 | .25 |
| Petrolatum, bbls. (as to color) | lb. | .02 | .07¼ |
| Phenol, (Carbolic Acid), drums | lb. | .14¼ | .16 |
| Pine Oil, bbls. | gal. | .59 | .64 |
| Potash, Caustic, drums | lb. | .06¼ | .06½ |
| Flake | lb. | .07 | .07¼ |
| Potassium Carbonate, solid | lb. | .07¼ | .09½ |
| Liquid | lb. | .03½ | .03¼ |
| Pumice Stone, powder | 100 lb. | 3.00 | 4.00 |
| Rosins (600 lb. bbls. gross for net) — | | | |
| Grade B to H, basis 280 lbs | bbl. | 5.75 | 6.35 |
| Grade K to N | bbl. | 6.40 | 6.45 |
| Grade WG and X | bbl. | 6.60 | 6.95 |
| Wood FF Spot | bbl. | 5.72 | 6.75 |
| Rotten Stone, pwd. bbls. | lb. | .02½ | .04½ |
| Silica | ton | 20.00 | 27.00 |
| Soap, Mottled | lb. | .04¼ | .04% |
| Olive Castile, bars | lb. | .13 | .19 |
| powder. | lb. | .23 | .30 |
| Olive Oil Foot | lb. | .07 | .07½ |
| Powdered White, U. S. P. | lb. | .19 | .21 |
| Green, U. S. P | lb. | .06½ | .08 |
| Tallow Chips | lb. | .07¼ | .07% |
| Whale Oil, bbls. | lb. | .05 | .06 |
| Soda Ash, cont., wks., bags, bbls. 100 lb. | | 1.23 | 1.50 |

| | | | |
|----------------------------------|---------|-------|--------|
| Car lots, in bulk | 100 lb. | — | \$1.05 |
| Soda Caustic, cont., wks., sid. | 100 lb. | — | 2.60 |
| Flake | 100 lb. | — | 3.00 |
| Liquid, tanks | 100 lb. | — | 2.25 |
| Soda Sal., bbls. | 100 lb. | 1.10 | 1.30 |
| Sodium Chloride (Salt) | ton | 11.40 | 14.00 |
| Sodium Fluoride, bbls. | lb. | .07¼ | .08% |
| Sodium Hydrosulphite, bbls. | lb. | .19 | .20 |
| Sodium Silicate, 40 deg., drum. | 100 lb. | .80 | 1.20 |
| Drums, 52 deg. wks. | 100 lb. | 1.35 | 1.75 |
| Tar Acid Oils, 15-25% | gal. | .21 | .24 |
| Trisodium Phosphate, bags, bbls. | lb. | .03 | .03½ |
| Zinc Oxide, lead free. | lb. | .06 | .06¼ |
| Zinc Stearate, bbls. | lb. | .20 | .22 |

Oils — Fats — Greases

| | | | |
|--------------------------------------|------|-------|-------|
| Castor, No. 1, bbls. | lb. | .10¾ | .11½ |
| No. 3, bbls. | lb. | .10¼ | .11 |
| Coconut | | | |
| Manila, tanks, N. Y. | lb. | — | .04¾ |
| Tank, Pacific coast | lb. | — | .04½ |
| Cod, Newfoundland, bbls. | gal. | .42 | Nom. |
| Copra, bulk, coast | lb. | — | .0260 |
| Corn, tanks, mills | lb. | .09¼ | Nom. |
| Cottonseed, crude, tanks, mill | lb. | .08½ | .08¾ |
| PSY | lb. | .09¾ | .10 |
| Degras, Amer., bbls. | lb. | .05¼ | .06 |
| English, bbls. | lb. | .04¾ | .05¼ |
| Neutral, bbls. | lb. | .08½ | .10½ |
| Greases, choice white bbls., N. Y. | lb. | .06 | .07¼ |
| Yellow | lb. | .05¼ | .05½ |
| House | lb. | .05¼ | .05½ |
| Lard, City | lb. | .10½ | .10¾ |
| Compound tierces | lb. | .12 | .12¾ |
| Lard Oil | | | |
| Extra, bbls. | lb. | — | .10¼ |
| Extra, No. 1, bbls. | lb. | — | .09¼ |
| No. 2, bbls. | lb. | — | .08¾ |
| Linseed, raw, bbls., spot | lb. | .1010 | .1030 |
| Tanks, raw | lb. | .0950 | .0970 |
| Boiled, 5 bbls. lots | lb. | .1130 | .1150 |
| Menhaden, Crude, tanks, Balt | gal. | .25 | Nom. |
| Oleo Oil, No. 1, bbls., N. Y. | lb. | — | .09¾ |
| No. 2, bbls., N. Y. | lb. | — | .09¼ |
| Olive, denatured, bbls., N. Y. | gal. | .85 | Nom. |
| Foots, bbls., N. Y. | lb. | .08¼ | .08½ |
| Palm | lb. | .04¼ | .04½ |
| Palm Kernel, casks, denatured | lb. | .04% | Nom. |
| Peanut, domestic tanks | lb. | .08¾ | Nom. |
| Red Oil, distilled bbls. | lb. | .09¼ | .10% |
| Saponified bbls. | lb. | .09¼ | .10% |
| Tanks | lb. | — | .08¼ |
| Soya Bean, domestic tanks, N. Y. | lb. | — | .08% |
| Stearic Acid | | | |
| Double pressed | lb. | .09 | .10 |
| Triple pressed, bgs. | lb. | .11¾ | .12¾ |
| Stearine, oleo, bbls. | lb. | .10 | Nom. |
| Tallow, special, f.o.b. plant | lb. | — | .06 |
| City, ex. loose, f.o.b. plant | lb. | — | .06¼ |
| Tallow, oils, acidless, tanks, N. Y. | lb. | — | .08¾ |
| Bbls., c/1 N. Y. | lb. | — | .09¼ |
| Whale, refined | lb. | .07¾ | .08 |

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Essential Oils

| | | | |
|------------------------------------|-----|--------|--------|
| Almond, Bitter, U. S. P. | lb. | \$2.00 | \$2.50 |
| Bitter, F. F. P. A. | lb. | 2.25 | 2.75 |
| Sweet, cans | lb. | .58 | .60 |
| Anise, cans U. S. P. | lb. | .50 | .53 |
| Bay tins | | 1.25 | 1.50 |
| Bergamot, coppers | lb. | 2.20 | 2.50 |
| Artificial | lb. | 1.00 | 1.30 |
| Birch Tar, rect. tins | lb. | .75 | .80 |
| Crude, tins | lb. | .14 | .16 |
| Bois de Rose, Brazilian | lb. | 1.25 | 1.40 |
| Cayenne | lb. | 2.30 | 2.50 |
| Cade, cans | lb. | .26 | .30 |
| Cajeput, native, tins | lb. | .45 | .46 |
| Calamus, tins | lb. | 3.25 | 3.50 |
| Camphor, Sassy, drums | lb. | 13½ | .14 |
| White, drums | lb. | .14½ | .15 |
| Cananga, native, tins | lb. | 2.30 | 2.35 |
| Rectified, tins | lb. | 2.60 | 2.65 |
| Caraway Seed | lb. | 2.00 | 2.25 |
| Cassia, Redistilled, U. S. P. | lb. | .92 | .95 |
| Cedar Leaf, tins | lb. | .90 | 1.00 |
| Cedar Wood, light, drums | lb. | .18 | .22 |
| Citronella, Java, drums | lb. | .30 | .31 |
| Citronella, Ceylon, drums | lb. | .18 | .19 |
| Cloves, U. S. P., tins | lb. | — | 1.00 |
| Eucalyptus, Austl., U. S. P., cans | lb. | .34 | .35 |
| Fennel, U. S. P., tins | lb. | 1.05 | 1.10 |
| Geranium, African, cans | lb. | 5.25 | 6.75 |
| Bourbon, tins | lb. | 5.50 | 7.00 |
| Hemlock, tins | lb. | 1.00 | 1.05 |
| Lavender, U. S. P., tins | lb. | 3.25 | 7.00 |
| Spike, Spanish, cans | lb. | 1.00 | 1.50 |
| Lemon, Ital., U. S. P. | lb. | 1.75 | 2.50 |
| Lemongrass, native, cans | lb. | .43 | .45 |
| Linaloe, Mex., cases | lb. | 1.25 | 1.30 |
| Nutmeg, U. S. P., tins | lb. | 1.20 | 1.35 |
| Orange, Sweet W. Ind., tins | lb. | 2.30 | 2.35 |
| Italian cop | lb. | 2.35 | 3.25 |
| Distilled | lb. | — | .90 |
| Origanum, cans, tech. | lb. | .70 | .75 |
| Patchouli | lb. | 4.75 | 6.00 |
| Pennyroyal, dom. | lb. | 1.65 | 1.90 |
| Imported | lb. | 1.15 | 1.20 |
| Peppermint, nat., cases | lb. | 2.50 | 2.75 |
| Redis., U. S. P., cans | lb. | 2.75 | 3.00 |
| Petit, grain, S. A., tins | lb. | 1.00 | 1.15 |
| Pine Needle, Siberian | lb. | .90 | .95 |
| Rose, Natural | oz. | 5.25 | 18.00 |
| Artificial | oz. | 2.00 | 3.00 |
| Rosemary, U. S. P., tins | lb. | .34 | .45 |
| Tech., lb. tins | lb. | .30 | .40 |
| Sandalwood, E. Ind., U. S. P. | lb. | 4.80 | 5.50 |
| Sassafras, U. S. P. | lb. | .75 | 1.00 |
| Artificial | lb. | .37 | .38 |
| Spearmint, U. S. P. | lb. | 1.85 | 1.90 |
| Thyme, red., U. S. P. | lb. | .68 | .85 |
| White, U. S. P. | lb. | .80 | 1.10 |
| Vetivert, Bourbon | lb. | 10.50 | 11.00 |
| Ylang Ylang, Bourbon | lb. | 4.60 | 7.00 |

Aromatic Chemicals

| | | | |
|----------------------------------|------|--------|--------|
| Acetophenone, C. P. | lb. | \$1.25 | \$2.25 |
| Amyl Cinnamic Aldehyde | lb. | 1.55 | 2.00 |
| Anethol | lb. | 1.05 | 1.10 |
| Benzaldehyde, tech. | lb. | .60 | .65 |
| U. S. P. | lb. | 1.20 | 1.30 |
| Benzyl, Acetate | lb. | .56 | 1.00 |
| Alcohol | lb. | .65 | 1.15 |
| Citral | lb. | 2.00 | 2.30 |
| Citronellal | lb. | 1.25 | 1.50 |
| Citronellol | lb. | 1.90 | 2.15 |
| Citronellyl Acetate | lb. | 4.50 | 7.00 |
| Coumarin | lb. | 3.10 | 3.30 |
| Cymene, drums | gal. | .90 | 1.25 |
| Diphenyl oxide | | .70 | 1.00 |
| Eucalyptol, U. S. P. | lb. | .50 | .55 |
| Eugenol, U. S. P. | lb. | 2.00 | 2.50 |
| Geraniol, Domestic | lb. | .75 | 2.00 |
| Imported | lb. | 2.00 | 3.00 |
| Geranyl Acetate | lb. | 2.00 | 2.50 |
| Heliotropin | lb. | 2.00 | 2.10 |
| Hydroxycitronellal | lb. | 3.50 | 9.00 |
| Indol, C. P. | oz. | 2.00 | 2.50 |
| Ionone | lb. | 3.25 | 5.50 |
| Iso-Eugenol | lb. | 3.00 | 4.25 |
| Linalool | lb. | 1.65 | 2.25 |
| Linalyl Acetate | lb. | 1.50 | 3.25 |
| Menthyl | lb. | 3.50 | 3.60 |
| Methyl Acetophenone | lb. | 2.50 | 3.00 |
| Anthranilate | lb. | 2.10 | 2.75 |
| Paracresol | lb. | 4.50 | 6.00 |
| Salicylate, U. S. P. | lb. | .40 | .45 |
| Musk Ambrette | lb. | 4.20 | 5.00 |
| Ketone | lb. | 4.35 | 5.25 |
| Xylene | lb. | 1.25 | 2.00 |
| Phenylacetaldehyde | lb. | 4.80 | 8.00 |
| Phenylacetic Acid, 1 lb., bot. | lb. | 2.50 | 3.25 |
| Phenylethyl Alcohol, 1 lb. bot. | lb. | 4.00 | 4.50 |
| Rhodinol | lb. | 5.75 | 8.00 |
| Saffrol | lb. | .54 | .57 |
| Terpineol, C. P., 1,000 lb. drs. | lb. | .23 | .25 |
| Cans | lb. | .27 | .30 |
| Terpinyl Acetate, 25 lb. cans | lb. | .80 | .90 |
| Thymol, U. S. P. | lb. | 1.40 | 1.50 |
| Vanillin, U. S. P. | lb. | 3.75 | 4.00 |
| Yara Yara | lb. | 1.30 | 2.00 |

Insecticide Materials

| | | | |
|----------------------|------|------|------|
| Insect powder, bbls. | lb. | .17 | .18 |
| Concentrated Extract | | | |
| 5 to 1 | gal. | 1.25 | 1.30 |
| 20 to 1 | gal. | 4.25 | 4.50 |
| 30 to 1 | gal. | 6.25 | 6.45 |
| Derris, powder—4% | lb. | .40 | .42 |
| Derris, powder—5% | lb. | .24 | .48 |
| Cube, powder—4% | lb. | .34 | .37 |
| Cube, powder—5% | lb. | .40 | .42 |

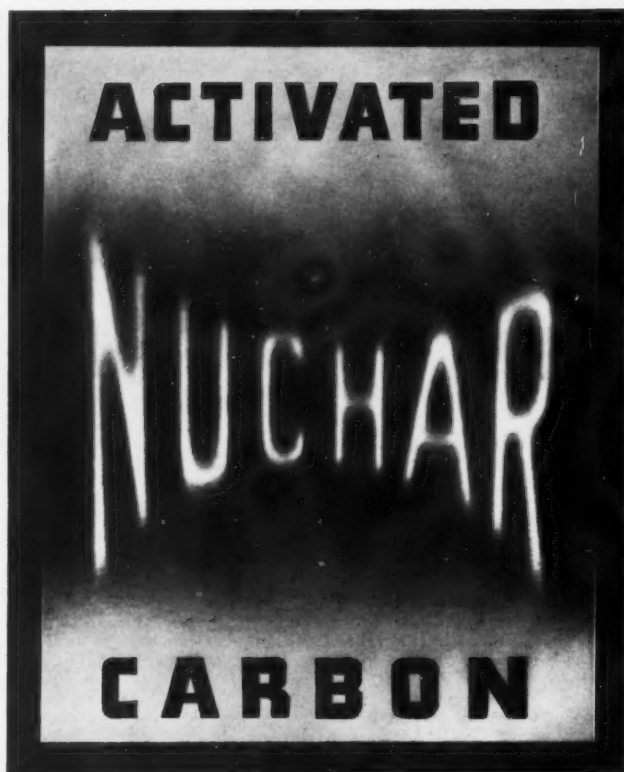
Gums

| | | | |
|---------------------------|-----|------|------|
| Arabic, Amb. Sts. | lb. | .09% | .10 |
| White, powdered | lb. | .13 | .14 |
| Karaya, powdered No. 1 | lb. | .09½ | .10 |
| Tragacanth, Aleppo, No. 1 | lb. | 1.25 | 1.30 |
| Sorts | lb. | .30 | .35 |

Waxes

| | | | |
|------------------------|-----|------|------|
| Bees, white | lb. | .36 | .38 |
| African, bgs. | lb. | .24 | .25 |
| Refined, yel. | lb. | .28 | .30 |
| Candelilla, bgs. | lb. | .16 | .16½ |
| Carnauba, No. 1 | lb. | .46 | .47 |
| No. 2, yel. | lb. | .44 | .45 |
| No. 3, chalky | lb. | .36 | .37 |
| Ceresin yellow | lb. | .36 | .38 |
| Paraffin, ref. 125-130 | lb. | .04¼ | .04½ |

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PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries*.

Soap Flakes

SOAP flakes and soap powders are usually considered as two separate materials. Ordinary soap powder is a compounded product, as distinguished from powdered soap. Materials are commonly added to soap powders to increase detergent action and water-softening effect. However, in some cases materials are added which are completely valueless in these respects. The housewife can hardly judge the value of a powder from its appearance and for those who are skeptical, soap flakes furnish a satisfactory answer. These, like the powders, possess the advantages of easy solubility and convenient addition to the wash water in any desired amount. Unlike the powders, they consist of soap rather than an unknown mixture of compounds. These are points covered in a discussion of soap flakes by G. Knigge in *Seifensieder-Ztg.* 63, 475-6, 498-9 (1936).

Soap flakes were manufactured and sold by a French company as early as 1892, principally for the textile industry, but their production was soon discontinued. Since the World War their manufacture has increased steadily until now many firms make this type of product. Originally shavings and noodle-like threads were made. The former were made by shaving up blocks of soap, the latter by forcing the semi-solid soap through a sieve. Later flakes were made which

had a definite rectangular or rhombic form.

A good flake should possess a certain transparency, it should lather well in solution, and the flake should possess elasticity or pliability. The latter property is of importance so that the product will reach the consumer not in the form of a meal, but in the shape of well-formed flakes. The basis for these properties is to be sought in the soap kettle or in the composition of the fats used. Suitable ingredients are those which would be selected for a good toilet soap. In order to get as much flexibility in the product as possible, the content of hard fats should be held to certain limits and a corresponding amount of soft fats and oils included. Sometimes a part of the caustic soda is replaced with caustic potash, but too much of the latter cannot be used without making the product too hygroscopic. The ratio of 7 parts of caustic soda to 1 part of caustic potash should not be exceeded.

While the fats used may be in the form of fatty acids and saponified with soda ash, it is of advantage to work with neutral fat, since the glycerine present will make the soap more pliable and transparent and give it a higher luster. Even if the greater part of the glycerine passes into the lower layer, a part of it will remain in the soap.

Suggested formulas for soap flakes are as follows:

Per Cent

| | |
|----|-----------------|
| 1. | |
| 70 | tallow |
| 10 | lard |
| 15 | coconut oil |
| 2. | |
| 45 | tallow |
| 25 | hardened fat |
| 10 | sesame oil |
| 15 | coconut oil |
| 3. | |
| 30 | tallow |
| 30 | hardened fat |
| 10 | castor oil |
| 15 | palm kernel oil |

Fats known to give a brittle soap should be kept low. Castor oil is a good agent for increasing pliability. However the amount does not need to be as great as given in formula 3; an addition of 2 per cent of this expensive product will have an effect in the desired direction. Saponification is carried out as with a carefully prepared toilet soap. It should be boiled in several waters, be thin-grained, and allowed to stand for some time for separation of lye.

This kind of soap should have an especially low salt content. The fresh soap stock should contain at least 0.2 per cent of free alkali, which will be reduced in quantity by the carbon dioxide of the air. If only 0.1 per cent is present in the beginning, the soap may become acid during the drying process and thus lack protection against rancidity which an excess of free alkali gives. A content of 0.2 per cent of free alkali will do no harm. Hydrolysis

alkali produced in soap solution is much greater than the alkali concentration produced by a few tenths of a per cent of free alkali in the soap. A small amount of rosin also makes for stability in the product. The quantity should not exceed 2 per cent of the fat charge. The rosin soap formed acts as a protective colloid and helps prevent a slightly acid soap from becoming rancid.

Further working of the soap is the same as for fine toilet soap. The soap is run into forms or cooling presses to solidify, is cut up and the first chips dried. If the soap is not pliable enough to give elastic flakes, this quality can be improved by superfatting in the mixing machine. A saponifiable fat should not be used since this might lead to rancidity. Lanolin, mineral oil, etc. are suitable.

Sodium metaphosphate which has been treated to give an alkalinity of pH 10.7 makes an excellent addition to soap flakes and permits lowering the fatty acid content of the product, which would normally be 80 per cent. By dissolving 1 kilogram of metaphosphate in 3 kilograms of warm water and adding this to 50 kilograms of dried chips in the mixing machine, the fatty acid content of the flakes can be reduced to 72.3 per cent. Thin flakes are obtained by running through rolls placed very close together. Some firms have a letter imprinted in the flakes.

Alkali in U.S.P. Soap

Numerous references are cited to show that the present U. S. P. allows more free alkali than is desirable in a medicinal soap. Objections were found to all of the available methods of determination, although the U. S. P. method is more rapid, convenient and gives results sufficiently accurate for the nature of the product. Experiments are being carried out to ascertain whether some of the free alkali is gradually neutralized by the fatty acids in the soap. Robert M. Lingle. *J. Am. Pharm. Assoc.* 25, 286-8 (1936).

Refining Recovered Fat

The method of treating oil and fat with steam at a high temperature, usually about 200° C., in order to improve the odor, cannot be applied to waste fat because of its high content of free fatty acids. Such a treatment would allow the free fatty acids to distil over with the steam and the odorous substances which are being driven off. The neutral portion only is improved in odor, while the fatty acids are still mixed with the odorous materials.

The method of purification of fatty material in use in the soap plant is not suitable for waste fat because the substances having a bad odor are not volatile at the boiling temperature of soap, which is in the neighborhood of 100° C. In the procedure employed up to the present, completely or partially saponified fat in the form of an aqueous soap mass is treated with steam at a temperature above 100° C., which requires treatment under pressure in an autoclave. By this means a temperature of 150° can be used. A disadvantage of this procedure is that the elevated pressure reduces the amount of odorous substances eliminated.

In a new procedure a similar result is obtained more easily and to a better degree if the partially or completely saponified fatty products are treated at normal pressures or *in vacuo* in the absence of water, above the melting point, with steam or a non-reactive gas, for a period sufficient to eliminate the bad odor. The procedure has the advantage of driving off volatile organic substances at the same time such as heavy oils or volatile mineral oils.

Specifically, the new method may be applied as follows: Heat a kilogram of waste fat to 150° C. and add superheated steam and concentrated caustic soda solution at the same time. In the course of this operation the temperature is raised gradually in such a manner, according to the degree of saponification and elevation of the boiling point which result, that the mass remains liquid. The quantity of caustic soda

used can be calculated on a basis of saponifying free fatty acids only or of saponifying the whole mass. It is necessary to bring the temperature to 200° or 280° respectively, in order to keep the material in the liquid state. The introduction of superheated steam is continued until all odorous substances have been driven over. In the saponification of neutral fat the glycerine set free is expelled at the same time and can be condensed in the first receiver in a very concentrated state. *Les Matieres Grasses* 28, 10837-8 (1936).

Silicate to Protect Aluminum

Cleansing powders usually contain materials that are alkaline in reaction. Such powders attack aluminum more or less strongly according to the concentration of alkaline compounds present. The result of the reaction is the formation of hydrogen and soluble sodium aluminate. By adding waterglass to such compound mixtures to the extent of about 10 per cent, the attack on aluminum by the alkaline salts is prevented. The protective action of waterglass is naturally somewhat limited, especially in the presence of even small amounts of free caustic soda. *Seifensieder-Ztg.* 63, 502 (1936).

Soap Dyes

Diazo or tetrazo compounds of the benzene or naphthalene series, not containing a group inducing solubility in water, are coupled with monoalkyl ethers of 1, 4-dihydroxynaphthalene. Red to blue dyes soluble in oils, fats and waxes and suitable for coloring soaps, candles, etc., are obtained. I. G. Farbenind. A.-G. German Patent No. 627,344.

Dispersion of Lime Soaps

Comparative values are obtained only if the additions of dispersion agents are based on a constant soap concentration, using the Lindner method. Some fatty alcohol sulfates possess only a slight dispersing action with lime soaps. H. Kuckertz. *Angew. Chem.* 49, 273-6 (1936).

Products and Processes

Hard-Water Soaps

Soaps are made resistant to hard water by mixing with aliphatic hydroxyacids such as glycolic, hydroxy-propionic, tartaric, citric and butyric acids and their compounds and derivatives. Giancarlo Vender. French Patent No. 792,880.

Fats for Soap Granules

The fatty acids to be used in making soap powder should be such as to give a hard soap which will form firm granules. It should dissolve quickly in cold water and give a rich lather, and should also withstand high temperatures. Such a soap will give a fine rather than a coarse lather. A suitable fat mixture consists of half coconut or palm kernel fatty acids and half tallow or bleached palm oil fatty acids or a mixture of the latter or other hard fats. *Seifensieder-Ztg.* 63, 439 (1936).

Fat-Decomposing Agents

Air, moisture and light act on fats even in the absence of microbes and lipolytic enzymes. The oxidizing effect of atmospheric oxygen is small in comparison with that of pure oxygen or peroxides. Similarly the action of diffuse daylight is mild compared to the effect of direct light or of ultraviolet light. Plants contain lipolytic enzymes which oxidize fat apart from the action of microbes. Oxidation of sterile fat without lipase is made evident by a rancid or tallow-like odor or taste (formation of hydroxystearic acid, epihydrinaldehyde), by an increase in refractivity, a positive reaction for labile oxygen, formation of hydroxyacids, peroxides, aldehydes, decrease in iodine number and positive reaction for caprylic acid. Plant lipases bring about active decomposition or splitting of fat without oxidation as shown by a high acid number, a positive Nile blue test, and the presence of free glycerine. Fats must therefore not only be protected from microbes, but also

from air, light and moisture. In some cases storage at -10°C . may be advisable. L. M. Horowitz-Wlasowa, E. E. Katschanowa and A. D. Tkatschew. *Z. Unters. Lebensm.* 69, 409.

Cheap Paste Soap

A cheap paste soap giving a large volume of product can be made as follows: Dissolve 100 parts of finely divided solid soap in 650 or more parts of hot water without boiling, preferably at a temperature of about 90°C . so that no foaming occurs. Crutch the solution with 1-2 parts of agar-agar well stirred into 80-100 parts of boiling water. Let cool with frequent crutching and transfer to suitable containers. *Seifensieder-Ztg.* 63, 397 (1936).

Spun Soap

Soap filaments are manufactured by a so-called spinning operation which consists of feeding soap to a delivery nozzle and dividing it into filaments by a revolving cutter as it is delivered from the nozzle. The soap can be put on the market in this form or used for the economical production of powdered soap. The filaments are also suitable for the production of bar or cake soap. For example, the spun soap may be delivered to a mixer where perfume or other matter may be incorporated and the mixture passed into a plodder for delivery for stamping. A very homogeneous product is obtained in this way without the use of a mill. *Perfumery & Essential Oil Record* 27, 271-2 (1936).

Metal-plating Cleaners

Some of the chemicals used in cleaners for plating are: Soda ash, caustic soda, trisodium phosphate, sodium metasilicate, sodium cyanide, sodium chloride, sodium sulfate, sodium borate, soap, and sulfated higher alcohols. Cleaners were evaluated

on: (1) wetting ability; (2) displacement of oil from the surface of oil-wetted test tubes; (3) emulsification of mineral oil, determined by the stalagmometer; (4) chemical activity; (5) deflocculation; (6) alkalinity, pH and buffer action; (7) tarnish and corrosive effect on metals. The conclusions were that emulsification is of major importance and soap ranks best in this respect, with the sulfated alcohols (3 grams per liter) offering promise. Caustic soda and sodium tetraborate are superior in saponification and sodium silicate in deflocculation. These four materials are said to constitute all necessary ingredients in a good cleaner. N. Promisel. *Met. Abstracts (in Metals and Alloys)*, 7, 20.

Metal Cleaner

To clean the greasy surface of metal objects which are in the process of manufacture, a solvent mixture is applied which is readily emulsified in water. The mixture consists of 75-95 per cent kerosene, an oleic acid soap, cresylic acid and water. This is washed off with water and solid particles of dirt removed in this way, leaving a film of grease, which is separately removed. Oakite Products, Inc. Canadian Patent No. 358,710.

Medicinal Soaps

Waste sulfite-cellulose lyes are used with fresh alkali lyes for saponifying fats. The sulfite-lye may be added first or last or part first and part last; it may be freed from sulfur dioxide by heat and agitation and from calcium by sodium carbonate. The soaps produced may be mixed with toilet soaps to obtain medical products. Carl Leyst-Küchenmeister. British Patent No. 442,046.

Disinfectant Soap

Although cresol is soluble in water to the extent of only 2-3 per cent, a liquid soap can be prepared with a high cresol content as a disinfectant soap which will still be clear. The reason for this is that cresol has the ability to liquefy potash soap. After the potash soap is prepared a small amount of cresol

is mixed in with it so that the soap is completely liquefied. Additional cresol can now be easily mixed with the liquid soap and filtered to give a clear filtrate. In this way a liquid disinfectant soap containing 30 per cent of cresol can be prepared. *Seifensieder-Ztg.* 63, 398 (1936).

Pine Oil Detergency

The greater the tertiary alcohol content of a steam distilled pine oil, the lower is its interfacial tension against water and the faster it will wet cotton when it is emulsified. In other words when different grades of pine oil were emulsified with the same base, it was found that the pine oil containing the highest percentage of tertiary alcohols required the lowest concentration for a given wetting time, with other pine oils following in the order of their decreasing tertiary alcohol content. This relationship held true at any pH, although the differences between high-tertiary and low-tertiary pine oils were smaller at the higher alkalinities (pH of 10 and above). In general the concentration required for a given wetting time varies inversely with the pH of the emulsion, although the rate of change is much less in more strongly alkaline solutions. All comparative tests must be made at the same pH. E. V. Romaine and I. E. Knapp. *Am. Dyestuff Reporter* 25, 341-5 (1936).

Metaphosphate Water Softener

Calcium-containing waters are softened by adding an alkali-metal metaphosphate which is water-soluble and capable of removing calcium in a slightly ionized condition in an amount sufficient to reduce the calcium-ion concentration below that in equilibrium with the solid phase of its fatty acid soap. Hall Laboratories, Inc. Canadian Patent No. 358,846.

Shaving Soap

Solid ammonium soap and solid alkali soap are separately powdered, mixed and pressed into shape to make shaving soap. Victor Scheffer. Hungarian Patent No. 114,137.

Fatty Acids from Paraffin

A method for obtaining fatty acids from paraffin has been developed in Germany in which the material obtained is apparently free from hydroxy acids, (one of the chief difficulties encountered in the Russian methods is the separation of hydroxy from carboxylic acids). In the new German process the melted paraffin is oxidized with air in the presence of manganese acetate and sodium carbonate as catalysts at a temperature of 110-115° C. Thorough distribution of air is ensured by blowing it through tiles pierced by large numbers of small holes. The fatty acids are isolated from the oxidized material by saponifying with alkali and splitting with acid. After distillation, clear white products suitable for high-class soap work are obtained. The yield of fatty acids is said to be 47 per cent of the initial paraffin. Unoxidized material is immediately returned to the process. *The Chemical Trade J. & Chem. Eng.* 99, No. 2565, 2 (1936).

New Fatty Alcohol Sulfates

Avirol OS and Avirol WS, two new emulsifying agents of the fatty alcohol sulfate group, are produced by E. I. duPont de Nemours & Co. The first compound is oil-soluble and the second wax-soluble. Both are stated to be stable to atmospheric oxidation and rancidity. They are suitable respectively for the preparation of emulsions of animal, vegetable and mineral oils, and emulsification of paraffin wax, animal waxes such as beeswax and spermaceti, and vegetable waxes such as Carnauba and Japan wax. *Textile Colorist* 58, 492 (1936).

Filter for Liquid Soaps

Specially prepared asbestos fibers are packed on fine wire screens to give an especially fine filter medium. The filter elements fit vertically into a case with a tight-fitting door. They are easily removed and when they become clogged with dirt, are taken out and the layer of soil and asbestos peeled off by hand. New asbestos can be applied quickly and

the unit replaced with very little loss of time. These filters can be made in special grades of a fineness such as to remove microorganisms from the solution being filtered. In such cases a cardboard-like sheet of asbestos is used. These filters do not have the disadvantages of filter cloth which sometimes tears and which has to be washed when it becomes clogged. Also the asbestos filters hold back all bleaching earths such as may be present in oils and which sometimes go through filter cloth in the early stages of filtering. *Allgemeine Oel-und Fett-Ztg.* 33, 222-4 (1936).

Detergents in Wool Scouring

The hydrogen-ion concentration of raw wool scouring liquors must be controlled because the detergent effect is dependent on it if uniform results are to be obtained. The strength and stability of the scoured wool also depend on the pH of the final liquor. Each of the 3 or 4 scouring liquors has its own definite purpose. In the first liquor the object is to emulsify the maximum amount of wool grease in the natural suint; in the second the required amount of the remaining grease is removed by soap and soda. In the third (and fourth) excess alkali is removed.

The most favorable conditions for each of these functions have been determined as: (1) The emulsifying power of suint for wool grease is at a maximum if the bath is kept above pH 8 by means of soda ash. (2) The emulsifying power of the soap bath rises sharply at pH 10, and more sharply if sodium carbonate is added than when trisodium phosphate, sodium metasilicate or caustic soda are used for adjusting the pH value. (3) When the pH of the third liquor is adjusted by sodium hexametaphosphate it ensures that the wool is not too alkaline for the later processes and at the same time, removes any deposits of insoluble calcium and magnesium soaps. (Report of Department of Scientific and Industrial Research). *Textile Colorist* 58, 466 (1936).

Glycerine Contamination

A study of the fermentation of glycerine water, as one of the sources of contamination of glycerol with low-molecular weight fatty acids, disclosed that besides the usual microorganisms of the butyric acid fermentation of the type *Clostridium butyricum*, the microflora of the fermented glycerol water contains also yeasts and various fungi, such as Ascomycetes, Saccharomycetes. A. Klyuchevich. *Masloboino Zhirovye Delo* 12, 95-6 (1936).

Cleaning Agents

Amino carboxylic acids containing at least 6 carbon atoms in the molecule are prepared by causing primary or secondary amines free from hydroxy groups to react with unsaturated carboxylic acids or their salts. The products have capillary properties and may be used as wetting or cleaning agents. They are also intermediates for the preparation of adjuvants in the textile industry. I. G. Farbenind. A.-G. French Patent No. 793,504.

Olein in Liquid Soap

A liquid soap suitable for use in dispensers in hotels and similar places can be made with a fat charge containing olein. The combination of olein with coconut or palm kernel oil makes a good base. To prepare a 15 per cent liquid soap take 10 parts of coconut oil, 6 parts of olein, 7.7 parts of 50° Be. caustic potash, 0.3 part of potassium chloride or potash, and 76 parts of distilled or otherwise softened water. Saponification should be complete and a small excess of alkali should be present. After standing for some time to allow sedimentation, the liquid should be filtered at the lowest possible temperature in order for the prepared product to remain clear. *Seifensieder-Ztg.* 63, 398 (1936).

Effect of Acid in Oils

The characteristics of oils vary, due to the presence of free fatty acids. For example, a palm oil containing 58 per cent of free fatty acid

gave a saponification number of 203.7; since 1000 mg. of this oil corresponds to 1027.2 mg. of neutral oil, the saponification number calculated to neutral-oil basis is 198.3. Mathematical formulas with examples, are given for converting the characteristics of acid oils to the neutral-oil basis. Characteristics of various palm oils show lesser variations if reported on the basis of neutral oil. Alfred Eisenstein. *Ole, Fette, Wachse, Seife, Kosmetik* 1936, No. 7, 1-4.

Nickel Catalysts Compared

A catalyst was prepared from nickel formate by precipitation on kieselguhr and reduction in the Vil'-bushevich retort, and from nickel formate by reduction in sunflower oil at 240° C. The two catalysts were used in the hydrogenation of crude and refined sunflower, hemp, linseed and mustard oils. The presence of albuminous, mucilaginous and pectic substances affect considerably the action of the carbonate catalyst, but have no marked effect on the action of the formate catalyst. The presence of soap causes rapid poisoning of the carbonate, but does not affect the formate. The latter results are confirmed by factory experience in the hydrogenation of various refined oils retaining some alkalies after washing. I. Petryaev. *Masloboino Zhirovye Delo* 12, 92-3 (1936).

Shaving Soap

A shaving soap contains alkali soap, caustic soda, a binder such as magnesium oxide, dry sodium bisulfite, crystallized citric acid or acetic acid, aluminum acetate, rice starch, petrolatum, theobromine and calcined magnesium oxide, with perfume and coloring matter. Georges Sarbach, Alois Geisen and Jean Steffenauer. French Patent No. 794,380.

Sulfonated Alcohols

Foaming and dispersing agents are made by treating sulfonated aliphatic alcohols containing more than 9 carbon atoms, with organic bases, particularly with pyridine or its homologs or derivatives. Bohme Fettchemie-Ges. m.b.H. German Patent No. 627,055.

Lauryl Alcohol Source

Washing and foaming agents are made by sulfonating a mixture of alcohols obtained from cacao fat or palm-kernel fat with a lower aliphatic alcohol, reducing the esters in known manner, and distilling off 50-60 per cent of the reduction product. Lauryl alcohol is the main constituent of the distillate. Böhme Fettchemie-Ges. m.b.H. German Patent No. 628,064.

Modified Sulfated Alcohols

Mixed ethers of higher alcohols with lower polyhydric alcohols such as glycerol are used for treating baths in the textile and leather industries. At least one hydroxy group of the latter alcohol should be replaced by a SH group. The presence of strongly polar groups in the ether is favorable. In an example monolauryl glycol ether is sulfonated, neutralized and treated with KSH solution. N. V. Chemische fabriek "Servo" and Meindert Danius Rozenbroek. Dutch Patent No. 38,013.

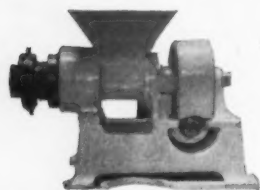
Sulf. Hydrogenated Comps.

Sulfonation products of partly or completely hydrogenated organic compounds which contain at least 12 carbon atoms and at least 2 carbon rings but only 1 free hydroxy group, are used as frothing and cleaning agents. The products are prepared by hydrogenating, sulfonating and neutralizing compounds such as *p*-hydroxybiphenyl, *p*-benzylphenol, cyclohexylphenol and naphthylmethylphenol. Henkel & Cie. G.m.b.H. French Patent No. 794,422.

Hydrogenated Fish Oils

Hydrogenated white-whale and sardine oils with iodine numbers of 85 and 100 respectively, are practically odorless. The acids with 2 double bonds in the mildly hardened oils melting at 30-5° C. are partly saturated clupanodonic acids. The amount of volatile acids (isovaleric acid) in the white-whale oil remains almost constant throughout the process of hardening. M. P. Belopol'skii and O. B. Maksimov. *Bull. Pacific Sci. Inst. Fisheries (U.S.S.R.)* 7, 107-28.

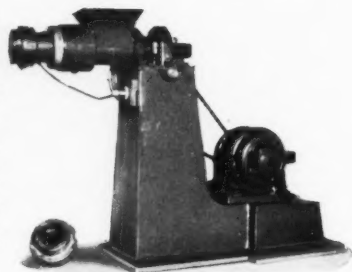
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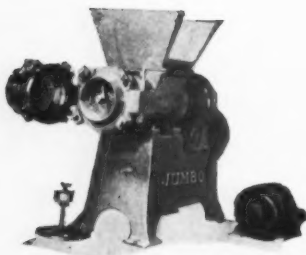
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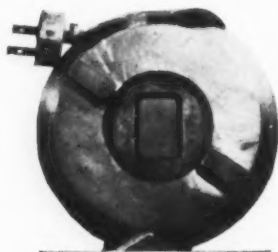


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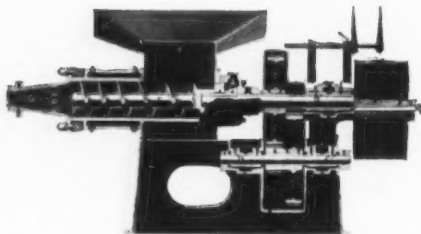
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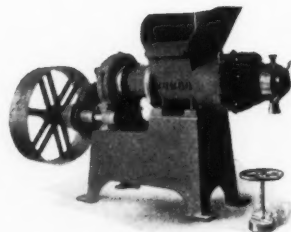


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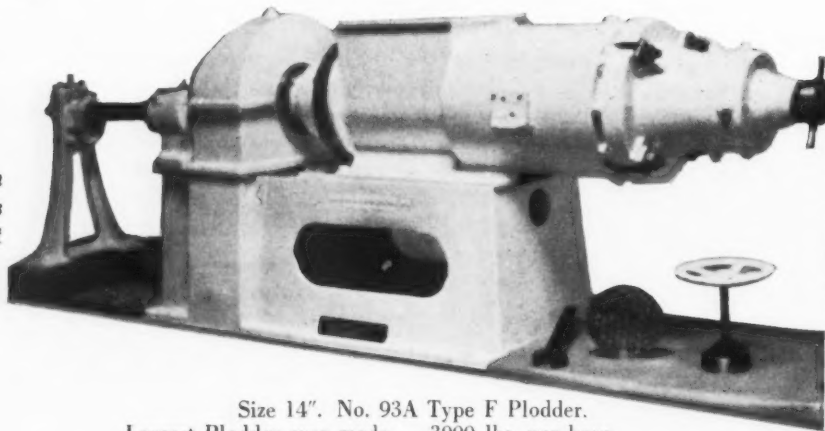


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Electrolytes in Soap

Electrolytes play a part both in soap manufacture as in salting out, and as a constituent of the finished product. Addition of salt to soap solution alters the viscosity, and at the critical concentration, changes the soap sol to a relatively water-poor soap gel. A second use, that of filler, is illustrated by a mixture of 50 per cent potash, 36 per cent ordinary salt and 14 per cent sugar. This mixture is dissolved in water and brought to a specific gravity of 21° Be. It is suitable for filling transparent soaps.

A little-mentioned relationship between soap and electrolytes is the decrease of electrolytic dissociation or of hydrolysis of soap sols in the presence of electrolytes. This may be of significance in toilet soap when the goal is to have a low degree of alkalinity. Since the easily determinable pH value gives a measure of the degree of hydrolysis of a soap solution, the effect of electrolytes on hydrolysis can be determined in the same way. For example, a 0.25 per cent toilet soap solution gave a pH value of 9.5 at 20° C. By adding an equal amount of borax, the pH was decreased to 8.8. The hydrolysis of liquid soaps necessarily having a high water content, can be suppressed by the addition of potassium chloride.

Electrolytes such as common salt tend to prevent rancidity development in soap. By salting out with a strong salt solution, a whiter and better soap is obtained, since the separation of the layers is sharper. Strong salt solution also tends to draw out with it highly unsaturated fatty acids, which quickly cause deterioration if present in soap. Salting out with a concentrated solution is of course not practicable with fine soaps, as too much salt would be retained by the soap. The place where this can be applied to advantage is in powdered soap products. A soap powder containing 1-1.5 per cent of salt will remain white for twelve months, while the same soap containing less than 0.5 per cent of salt may turn yellowish in three months. Apparently the former amount of

salt acts as a very mild antioxidizing agent. In Spain natural mineral salts are added in fairly large amounts to coconut oil soaps. Apparently this addition counteracts the tendency to turn rancid of the unsaponified oil present. Some of these natural mineral salts contain sulfur and iodine, so that their addition puts the soaps in the medicinal class. Karl Pfaff. *Riechstoff Industrie und Kosmetik* **11**, 71-2 (1936).

Rapid Test of Saponification

Withdraw a sample of saponified fat heated to 70-90° C. with a 5-cc. pipet which has been warmed to 60-70° C. Put the sample in a tared, 200-cc. flask, let cool and weigh. Add 100 cc. of saturated salt solution at 60-70° C., 30 cc. of refined sunflower seed oil heated to the same temperature, and 3 drops of 1 per cent methyl orange and titrate mineral acid with 0.5 N sodium hydroxide solution. Add 10 drops of 10 per cent phenolphthalein solution and titrate with 0.5 N sodium hydroxide solution, with shaking. The percentage of saponification equals $(a - b) \times 0.141 \times 100/H$, where H equals grams of sample, a equals cc. of 0.5 N sodium hydroxide solution used to titrate fatty acids, 0.141 equals the titer of 0.5 N oleic acid, assuming that the molecular weight of oleic acid is equal to that of all of the fatty acids,—and b equals the correction for the acidity of the 30 cc. of sunflower seed oil, which was previously determined by a similar procedure. This whole determination can be made in 5 minutes with an accuracy to 1 per cent. G. Klein, N. Kaminskii and P. Yulichman. *Masloboino Zhirovoe Delo* **11**, 502-3 (1935).

Betanaphthol Wetting Agent

Alkoxyalkylnaphthalenesulfonic acids are prepared for use as wetting agents by etherifying betanaphthol and then subjecting it simultaneously or successively to a sulfonation and condensation with an aliphatic alcohol containing 3, 4 or 5 carbon atoms so that an alkyl group enters the ring. Imperial

Chemical Industries Ltd. French Patent No. 791,974.

Free Alkali Limit in Soap

The English specifications for the free alkali content in the various classes of soap are as follows: (1) Yellow curd soap; the total free alkali calculated as Na_2O may not exceed 0.5 per cent, while the free caustic alkali may not amount to more than 0.15 per cent of the soap. (2) Rosin-free laundry soap; the total free alkali calculated as Na_2O may not exceed 0.4 per cent, of which the free caustic alkali shall not be more than 0.1 per cent of the soap. (3) Paste soap; free caustic and carbonate alkali calculated as K_2O shall not exceed 3 per cent, while the content of free caustic alkali alone, calculated as K_2O shall not exceed 0.75 per cent of the soap. It is to be noted that the English usually consider under the head of free alkali, the total caustic alkali and soda in curd soap, and total caustic alkali and potash in soft soap. Translating these figures into terms of free NaOH and KOH, the results are: (1) The limit for yellow curd soap is 0.19 per cent. (2) White curd soap has a content up to 0.13 per cent. (3) Paste or soft soap may have a content of free alkali up to 0.89 per cent. *Seifensieder-Ztg.* **63**, 440 (1936).

Thiocyanate Method

The Kaufmann thiocyanate method for analysis of vegetable oils gave concordant results when applied to ten different oils. The method is sufficiently accurate even when there is a high degree of unsaturation. S. L. Ivanov, V. P. Lebedev and P. P. Kel'tzev. *Schriften zentral. Forschungsinst. Lebensmittelchem.* (U.S.S.R.) **4**, 185-91.

Soap from Apatite Liquors

Preliminary experiments indicate the possibility of production of household and toilet soaps with the use of waste apatite liquors, since these contain a mixture of potassium and sodium salts. V. Savvina. *Masloboino Zhirovoe Delo* **11**, 592-4.

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"Soap". Bound volumes for years 1927-28 and 1935 available at \$12.00 each.

Soaps, by Hurst. A practical manual of soap manufacture. 440 pages. \$8.50.

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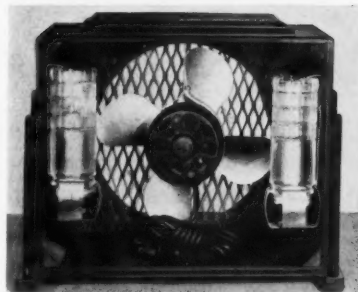
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253—Odor Disseminator

Ira E. Baker Co., Cleveland, has just brought out a new electric fan and odor disseminator. Blades



and motor are completely enclosed in a cabinet, improving the appearance of the unit and eliminating danger from the whirling blades. The cabinet is equipped with brackets to hold bottles of a suitable aroma or deodorant which is disseminated into the air stream through use of "Vacutop" closures. A selection of six odors is now available and others can be had on special order. Doors are provided at the back of the cabinet which can be closed for winter operation, eliminating draft while retaining odor circulation.

254—Tablet Press

Kux-Lohner Machine Co., Chicago, has recently introduced a new automatic continuous rotary tab-

let press designed for compression of deodorant tablets. It is designed to turn out tablets up to 3" in diameter, with a depth of fill of 2". It is equipped with six sets of punches, with a production of 20 to 30 tablets per minute for each punch used. If only one set of punches is required, removable plugs are supplied for the remaining five holes. Adjustment for volume of material used can be held to micro-accuracy and adjustments can be made while the machine is in operation.

255—Label Paster

Alsop Engineering Corp., New York, has announced a new low-priced label paster which is said to put glue on labels at the high rate of 1/10 second for a 2" label. Removable parts are designed to lift free for easy cleaning when the motor stops. The thickness of glue applied can be controlled to 1/1000th of an inch.

Publications

240—Material Handling

Stephens-Adamson Mfg. Co., Aurora, Ill., has just issued a new catalog illustrating and describing its complete line of conveyors and elevators for material handling in industrial plants. Copies are available.

256—Laboratory Bulletin

Precision Scientific Co., Chicago, has just issued a new bulletin covering their complete line of Kjeldahl equipment for digestions and distillations. Complete specifications are given on multi-tube distillation condensers, multi-hood fume pipes, tellurium lead fume exhaust, fume exhaust blowers, micro apparatus, combination set-ups, electric circuit breakers, heaters, gas burners, and inexpensive conventional set-ups for digestions and distillations. The 20-

page Bulletin is liberally illustrated throughout. Copies available thru SOAP.

257—Xmas Packing

Hinde & Dauch Paper Co., Sandusky, Ohio, has just issued a booklet dealing with packing of consumer goods for the Christmas trade. The booklet, produced in full colors, explains how well designed and attractively colored shipping boxes gain the customer's attention and so help to increase sales. Copies may be secured thru SOAP.

258—Water Chlorination

Mathieson Alkali Works, New York, has recently issued the second edition of a 72-page booklet by Walter L. Savell under the title "Hypo-Chlorination of Water." The latest developments in the field of water treatment are covered in a comprehensive way, with special attention to the use of Mathieson products in solving water treatment problems. Copies of the booklet are available.

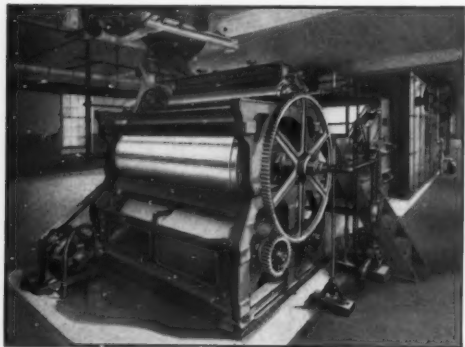
248—Dispersing Agent

Dewey & Almy Chemical Co., Cambridge, Mass., has just prepared a new booklet describing its "Daxad" dispersing agents. The general characteristics of these new products are outlined and the points of difference between wetting agents and true dispersing agents are discussed. The difference in action between wetting and dispersing agents is shown visually with a series of photomicrographs. Copies of the bulletin are available.

Metaphosphate in Tanning

Sodium hexametaphosphate is used in the tanning industry in places where the discoloration of leather by iron compounds is especially to be avoided. The application should be particularly important where waste sulfite liquors are employed for tanning purposes, since it is almost impossible to avoid the contamination of such liquors with small amounts of iron impurities during their production at the pulp mills or paper works. Chemical Trade J. 98, 444 (1936).

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No. 2,042,712, Insecticide, Patented June 2, 1936, by Charles B. Gnadinger, Minneapolis, Minn. A process which consists in making a solution of an oleo resin of pyrethrum with decalin, diluting the decalin solution with naphtha to precipitate dissolved resins, cooling and filtering the decalin-naphtha solution, and removing the naphtha by distillation.

No. 2,042,729, Separating Fatty Acids, Patented June 2, 1936, by Anderson W. Ralston, William O. Pool, and James Harwood, Chicago, Ill., assignors to Armour and Company, Chicago, Ill. The process which includes converting a mixture of a plurality of fatty acids to a mixture of nitriles corresponding to the fatty acids, separating the nitriles by fractional distillation, and converting the separated nitriles to their corresponding fatty acids.

No. 2,043,267, Insecticides, Patented June 9, 1936, by Vanston H. Ryan and James A. Moran, Kansas City, Mo. A product adapted to serve as concentrate for a germicide, insecticide or parasiticide, comprising a product which is the result of a chemical reaction between the toxic principle of herbs of the class including pyrethrum flowers and derris root with a chemical compound of the alkyloamine family.

No. 2,043,378, Fibrous Soap, Patented June 9, 1936, by Masaji Igarashi and Toshiro Hatta, Tokyo, Japan, assignors to Kao Sekken Kabushiki Kaisha Nagase Shokai, Tokyo, Japan. In apparatus for man-

ufacturing fibrous soap, having a chamber provided at the upper portion thereof with a rotatable means for centrifugally projecting soap in fluid form into the chamber and at the lower portion of the sides thereof a peripherally disposed air supply means, the combination of a perforate conical apron occupying the lower portion of the chamber and the major portion of the sides thereof over the air supply means and reaching upwardly toward the level of the rotatable soap projecting means in order to cause the incoming air from the air supply means to pass inwardly through the perforations in the form of a plurality of obliquely directed air jets, and a perforate member fixedly associated with a portion of the rotatable means so as to rotate therewith and rapidly project the soap centrifugally into the chamber towards the sides and perforated conical apron in the form of a large number of simultaneously formed soap fibres.

No. 2,043,684, Soap Cutter, Patented June 9, 1936, by Charles T. Walter, Chicago, Ill., assignor to Industrial Patents Corporation, Chicago, Ill. In combination, means for continuously feeding material to a cutter, a guiding lever for the material, a rotating anvil in operative relationship with the cutter and means for reciprocating the cutter vertically and laterally.

No. 2,043,685, Tube Soap, Patented June 9, 1936, by Charles T. Walter, Chicago, Ill., assignor to Industrial Patents Corporation, Chicago, Ill. The art of preparing soap which comprises extruding liquid soap stock in the form of a thin-walled tube, subjecting the thin-walled tube to the drying effect of a heated air current and cutting the tubes at a predetermined state in the drying process.

No. 2,043,941, Fly Repellent, Patented June 9, 1936, by Evan Clifford Williams, Berkeley, Calif., assignor to Shell Development Company, San Francisco, Calif. As a fly repellent, fumigant and the like, a preparation containing as an active ingredient a member of the class consisting of unsaturated organic sulfides and polysulfides possessing an olefinic linkage in an aliphatic chain, the sulfur compounds possessing boiling points above that of corresponding allyl compounds whereby the former remain for some time on the subject being treated while still being volatile enough to give off vapor under conditions of operation.

No. 2,044,010, Insecticide, Pat-

ented June 16, 1936, by Lindley E. Mills, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich. A composition of matter comprising a petroleum fraction having a sulphonation value above 50, an emulsifying agent, water, and a compound selected from the group consisting of the chlorinated derivatives of diphenyl and diphenyloxide.

No. 2,044,246, Cleaning Composition, Patented June 16, 1936, by Frank R. Johnson, Floral Park, N. Y. A permanently clear liquid cleaning composition which is adapted for use with water, comprising in parts by weight, soap about 5 parts, 10 to 15 parts by weight of water, Turkey red oil (75%) about 15 to 25 parts, trichlorethylene about 20 to 35 parts, petroleum spirit about 25 to 50 parts, trisodium phosphate about 2 parts, and about $\frac{1}{2}\%$ to $1\frac{1}{2}\%$ of the total weight of the above ingredients in free higher fatty acid.

No. 2,044,467, Cleansing Preparation, Patented June 16, 1936, by Theodore K. Cleveland, Drexel Hill, Pa., assignor to Philadelphia Quartz Company, Philadelphia, Pa. A detergent composition of matter comprising a physical mixture of a crystalline hydrated sodium silicate and a second sodium silicate which disperses in water to form a colloidal silicious system, the relative proportions of the silicates being such as to yield in aqueous solution a detergent bath partaking of the individual characteristics of the silicates and adapted to be used before equilibrium is attained.

No. 2,046,192, Silicate Detergent, Patented June 30, 1936, by Foster Dee Snell, Brooklyn, N. Y., and Henry V. Moss, St. Louis, Mo., assignors to Swann Research, Inc. A process of producing a detergent which consists in providing a finely ground sodium silicate, adding finely ground caustic soda thereto until the ratio of alkali expressed as Na_2O to silica expressed as SiO_2 is greater than 1 to 1 and not more than 2 to 1, mixing and stirring the finely ground ingredients to bring about a reaction there between and form a mass of granular particles, protectively coating the granular particles by spraying with approximately 0.1% of a saponifiable oil, and cooling with disintegration to form a dry free flowing product.

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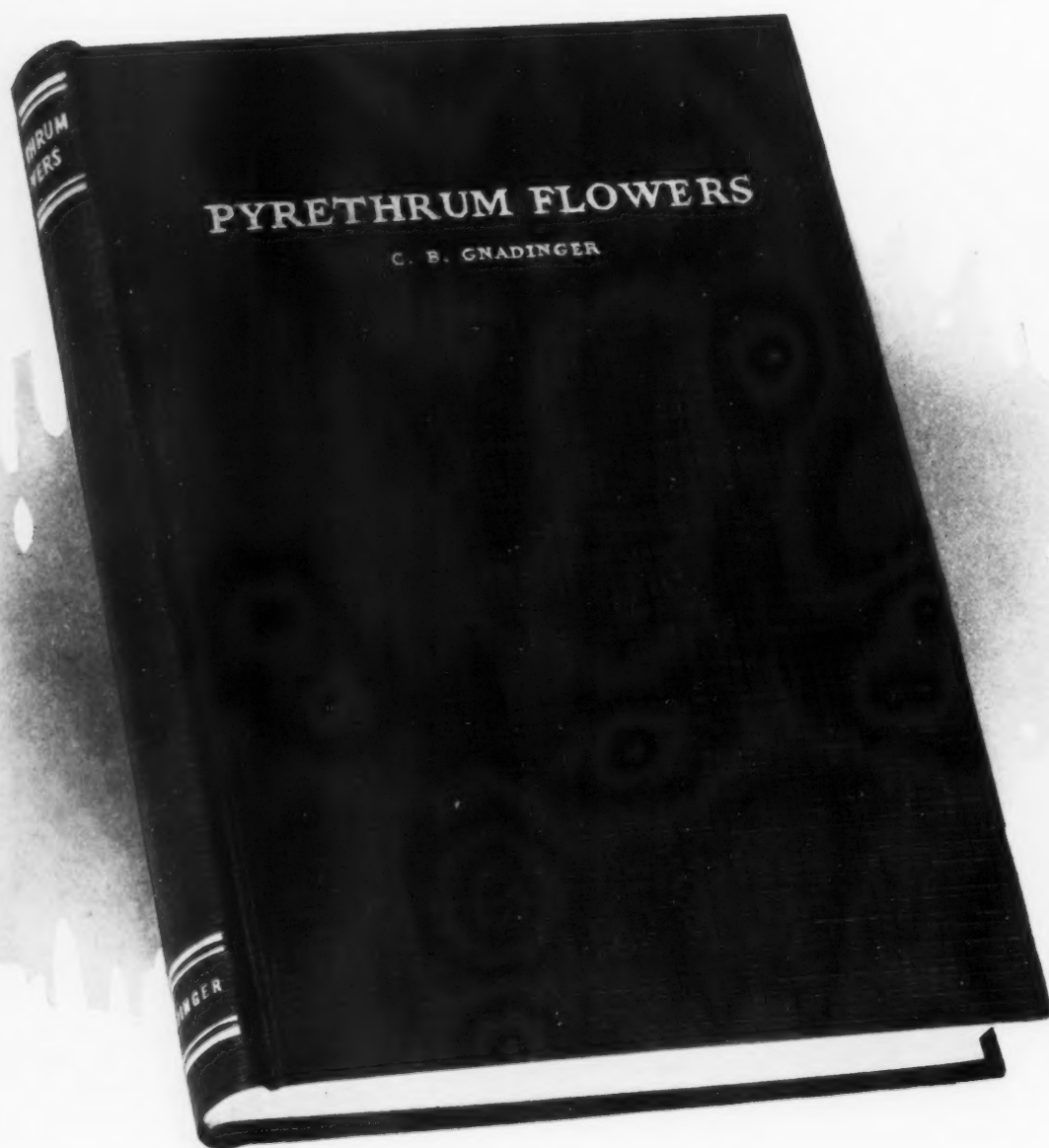
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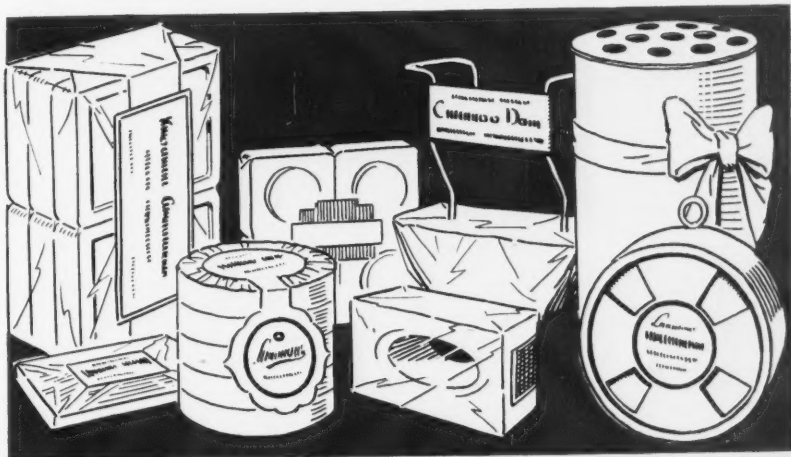


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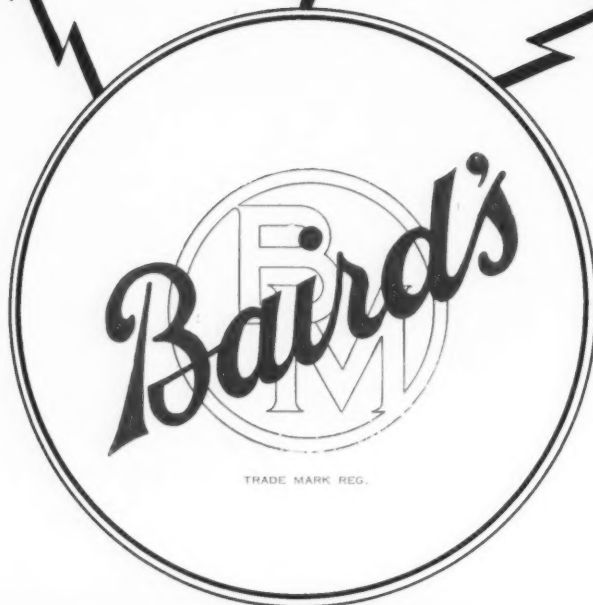
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A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

WHEN a new account drops into the lap of a sanitary supply manufacturer out of a clear sky and without advance notice, it should be viewed with suspicion. We have discussed this very subject on several occasions, and it is one about which the trade may well again be reminded. No matter how long a firm has been in business and no matter how many times they have been stung in the past, the idea of new business, which has heretofore been enjoyed by a competitor, seems to upset reasoning processes, and throw caution out of the window. Some firms, of course, do examine into the facts and inquire the reason for their sudden receipt of such business. Many, however, are so eager to get the business that they fail to see if there is a hook hidden somewhere in the bait.

Switching from one supplier to another may be a matter of bad credit,—refusal of further credit by the former supplier. It may be that the other fellow has raised his price and the buyer wants you to supply at the old price before you realize what has happened. Or it may be any one of a dozen other reasons, any one of which may be reason enough why you do not want the business either. So once more, let's scrutinize these new accounts, these apparent windfalls, a trifle more closely. All of which emphasizes that closer cooperation among manufacturers of sanitary products in this regard, might save everybody an occasional headache.

RAISING the ante of the Veterans Bureau by twenty per cent, the U. S. Treasury Department from Des Moines, Iowa, has issued a bid for insecticides calling for 100 per cent knock-down in 10 minutes and 100 per cent kill in 24 hours, free from odor and toxicity to humans, and containing "no free hydro-

carbon distillate." The product must be guaranteed to kill bed bugs and relative vermin.

Of all the unique and freak government insecticide specifications which have been issued, this is the top. It takes the palm without a struggle. No mention is made of the Peet-Grady Test, so possibly the knock-down test is to be run against bed bugs. But who knows when a bed bug is down? And that part about "no free hydrocarbon distillate" should cause a wide grin. By "free" do they mean without charge, that is gratis, or do they mean uncombined? Or possibly they want a carbon tetrachloride base. With a 100% kill required, we should suggest a sulfuric acid base, although this might not meet the toxic requirements fully. However, the other requirements will not be met, so why be fussy about this one? Then again a hammer and anvil can always be counted upon to give 100% kill if properly used.

For light and humorous hot-weather reading for insecticide manufacturers, we suggest a few of these government specifications. Humor uncultured by conscious effort!

IN offering a sanitary products business for sale and in an effort to portray the margin of profit therein, the owner informed us that he buys his liquid soap for nineteen cents per gallon and sells it for eighty-five. Although we did not go into details, we would (1) like to examine a sample of the soap in question, (2) find out who is dumb enough to sell at nineteen cents,—if it be true, and (3) find out where there are customers whose credit is worth a tinker's dam, who are buying at eighty-five cents. If these three points could be cleared up to our satisfaction, we would think about buying the business ourselves.

Insecticide and Germicide Patents Reviewed

By Dr. R. C. Roark

Division of Insecticide Investigations
Bureau of Entomology & Plant Quarantine

PATENTS covering insecticides, both household and agricultural, disinfectants, germicides, and allied products which have been extracted and reviewed during the past year as part of the regular service of Dr. Roark of the Bureau of Entomology and Plant Quarantine, have been selected and outlined in the following summary.—*The Editors.*

Phenol Preparation. 1,996,744 (Apr. 9, 1935; appl. Mar. 2, 1931). Edgar C. Britton, Midland, Mich.—The Dow Chemical Company, Midland, Mich.—A method of making meta-phenylphenol from a mixture of ortho and para-chlorodiphenyls comprises reacting the latter mixture with aqueous sodium hydroxide under pressure at a temperature of 300° to 400° C. in the absence of catalytically active metallic copper or copper compound and separating meta-phenylphenol from the thereby formed mixture of phenylphenol. The novel reaction products obtainable by this process, may advantageously be employed as such for disinfectant, insecticidal, or other purposes without undergoing unnecessary separation into the components thereof.

Destruction of Undesired Vegetation. 1,997,750 (Apr. 16, 1935; appl. Oct. 10, 1931). Vincent Sauchelli, Pittsburgh, Pa.—The Koppers Company.—A herbicidal composition comprises essentially ammonium thiocyanate.

Method of Impregnating Materials. 1,998,100 (Apr. 16, 1935; appl. July 14, 1928). John E. Shepherd and Raymond D. York, Charlottesville, Va.—National Cold Steam Company, Charlottesville, Va.—This present invention relates to an apparatus for, and method of, impregnating materials with protective, preservative fluids, against all forms of attack, weather, pest proofing, as the case may be, through the medium of a vaporized fluid applied thereto under pressure.

Salicylic Acid Derivative. 1,998,750 (Apr. 23, 1935; appl. Dec. 30, 1931). Herman A. Bruson, Germantown, and Otto Stein, Drexel Hill, Pa.—The Resinous Products & Chemical Co., Inc., Philadelphia, Pa.—The patentees claim a salicylic acid in which a nuclear hydrogen atom para to the hydroxyl group is replaced by an amyl group having a branched chain at the carbon atom by which it is connected to the benzene ring. Examples are 2-hydroxy-5-sec-amyl-benzoic acid and 2-hydroxy-5-sec-hexyl-benzoic acid. These are very powerful antiseptics, fungicides, and disinfectants.

Insecticide Applicator. 1,999,123 (Apr. 23, 1935; appl. Oct. 16, 1933). Jesse L. Clark and Newton Mansfield, Ashland, Ohio.—Dr. Hess and Clark, Inc., Ashland, Ohio.—This apparatus is for applying liquid insecticide to domestic animals.

Composition of Matter for Exterminating Vermin. 1,999,524 (Apr. 30, 1935; appl. Mar. 27, 1931; in Sweden Mar. 27, 1930). Tor G. W. Molin, Gottenborg, Sweden.—A composition of matter intended for preventing vermin from dispersing along the piping of central heating plants and intended to be applied in the interstices between the

piping and the bushings or tubes provided in the ceiling and wall ducts of said piping, comprises a mass having a semi-solid consistency at ordinary temperature and a melting point not lower than 70° C., and substantially above the maximum temperature to which the piping is to be subjected, and vermin poison mixed in with said mass. Trials have proved, that an especially convenient composition of matter of the said kind can be obtained by consistent grease (hard solid oil) or other kind of grease with a melting point of about 150° C., to which is added calomel (precipitated mercurous chloride, HgCl) or chloralamid (mercurous ammonium chloride, HgNH₂Cl) or calcium fluoride, CaF₂, in the proportion of about 5 to 10 per cent, or any other kind of poison.

Stable Aqueous Solutions of Basic Organic Dyestuffs and Sulphonated Dyestuffs and Process of Preparing Them. 1,999,750 (Apr. 30, 1935; appl. Apr. 4, 1932; in Germany Apr. 16, 1931). Louis Benda, Frankfort-on-the-Main, Germany.—Winthrop Chemical Company, Inc., New York, N. Y.—A process of preparing stable aqueous solutions of basic acridine derivatives and sulphonated dyestuffs used as therapeutics comprises dissolving in water 3,6-diamino-10-methylacridinium chloride in the presence of an excess of a sulphonated dyestuff of the group consisting of trypan-blue, trypan-red and acid fuchsin. The aqueous solutions of basic compounds and sulphonated dyestuffs obtained according to this process can be used for therapeutic purposes, especially for injections, for example when treating certain infectious diseases of cattle and dogs.

Insect Repellent. 2,000,004 (May 7, 1935; appl. Aug. 26, 1931). Elmer W. Adams, Hammond, Ind.—Standard Oil Company, Chicago, Ill.—An insectifuge comprises a mineral oil solution of an alkyl benzoate, wherein said alkyl group contains from one to six carbon atoms. A quick-acting insecticidal and insectifugal composition can be produced by combining the benzoic acid esters with a mineral oil solution containing the oil soluble principles from pyrethrum flowers.

Ant Trap. 2,000,647 (May 7, 1935; appl. Apr. 30, 1934). Clayton O. Rudd and Oscar C. Rudd, Phoenix, Ariz.—This trap is designed for placing over an ant nest and contains liquid or powder poison.

Composition for Killing Insects and Fungi. 2,000,843 (May 7, 1935; appl. July 10, 1933; in Germany July 13, 1932). Paul Janke, Ascona, Switzerland.—Dohne & Co., Orbono-Gesellschaft, Brissago, Switzerland.—A composition for destroying obnoxious insects and fungi, consists of a mixture of 33 parts of soft soap, 11 parts of a 2 per cent cresol soap solution, 17 parts of a 10 per cent watery tobacco extract, 22 parts of a ½ normal-potassium permanganate solution, 17 parts of vegetable glue, and from ¼ to 2 parts of alcohol. This is stated to kill insects and fungi which are injurious to fruit trees, vine, flowers and vegetables, such as the *Schizoneura lanigera*, Pemphigus (*Ycceria purchasi*) the Plasmopara, the apple mildew, and the like.

Hydroxy Diphenyl Intermediates. 2,001,523 (May 14,

1935; appl. June 3, 1933). Walter G. Christiansen, Glen Ridge, N. J., and Sidney E. Harris, Lynbrook, N. Y.—E. R. Squibb & Sons, New York, N. Y.—The patentees claim 2-hydroxy-4'-nitro diphenyl useful as an intermediate in the preparation of bactericides.

Halogen Alkenyl Phenols and Manufacture Thereof. 2,002,447 (May 21, 1935; appl. Oct. 30, 1933; in Germany Nov. 11, 1932). Stanislaus Deichsel, Wuppertal-Elberfeld, Germany.—Winthrop Chemical Company, Inc., New York, N. Y.—The patentee claims phenols which are substituted at the benzene nucleus by a halogen atom and by an unsaturated organic radical of 4 to 7 carbon atoms selected from the group consisting of alkenyl and cycloalkenyl groups containing one double bond, which products display a disinfecting action. The said new halogen phenol substitution products are distinguished by their superior disinfecting action as compared with similarly constituted known compounds.

Pest Exterminator. 2,004,121 (June 11, 1935; appl. Oct. 23, 1933). Robert B. Loibl, Jr., Los Angeles, Calif.—This device makes liquid poison available to insects by means of a wick.

Pest Exterminator. 2,004,122 (June 11, 1935; appl. Oct. 23, 1933). Robert B. Loibl, Jr., Los Angeles, Calif.—This container dispenses liquid insecticides for the abatement of ants.

Pest Exterminator. 2,004,123 (June 11, 1935; appl. Feb. 15, 1934). Robert B. Loibl, Jr., Los Angeles, Calif.—This invention relates to a pest exterminator of the type wherein a liquid poison is gradually fed from a container to a point readily accessible to injurious insects, or other animal pests, which it is designed to destroy.

Treatment of Tobacco for Insecticidal Purposes. 2,004,124 (June 11, 1935; appl. May 6, 1930). Robert G. Mewborne, Albuquerque, N. Mex.—Niagara Sprayer and Chemical Co., Inc., Middleport, N. Y.—A method of preparing an insecticidal product from tobacco plant material comprises stopping the life process of the tobacco plant, upon reaching an equalized acidity calculated in hydrogen ions of about 5.75 to 5.70, developing the optimum nicotine content by storage, and then heating to dehydrate the same.

Insecticide. 2,006,227 (June 25, 1935; appl. Oct. 19, 1932). Euclid W. Bousquet, Wilmington, Del.—Grasselli Chemical Company, Cleveland, Ohio.—A contact insecticide comprises an aqueous preparation containing technical soya bean lecithin as the essential active ingredient and sulfonated fish oil as a dispersing agent. Lecithin preparations are compatible with other contact insecticides, such as nicotine, rotenone and pyrethrum preparations. The phosphatide decidedly enhances the toxicity of the nicotine, etc. and very efficient contact insecticides can be prepared in combining the two types of toxic products.

Apparatus for Diffusing Pyrethrum. 2,006,437 (July 2, 1935; appl. Sept. 28, 1932). Walter S. Burgess and Earl K. Golley, Benton Harbor, Mich.—The O. & W. Thum Company, Grand Rapids, Mich.—A hand operated piston spray pump for spraying pyrethrum solution is provided with an electric heating coil for generating steam from water previous to its delivery to a mixing chamber.

Manufacture of Insecticides. 2,006,456 (July 2, 1935; appl. Mar. 12, 1930). Joseph H. James, Pittsburgh, Pa.—Clarence P. Byrnes, Sewickley, Pa.—The patentee claims in the process of treating sulphonated products obtained by treating lighter petroleum fractions such as gasoline with sulphuric acid to obtain an emulsifiable insecticide or fungicide, the steps consisting of neutralizing the free acids, hydrolyzing the sulphates, washing and removing excess alkali and then adding a small percentage of an insect poison, such as nicotine, derris root or other organic poisons, or inorganic poisons, such as copper and arsenic derivatives.

Insecticides and Fungicides. 2,006,895 (July 2, 1935; appl. Aug. 8, 1933). Robert H. Hurt, Charlottesville, Va.—

A process of preparing an insecticide and fungicide comprises adding sulfonated water gas creosote oil to a solution of calcium polysulfides. Approximately 2½ gallons of standard lime-sulfur, i.e. a 32 Baume solution of polysulfides, are mixed with 97½ gallons of water in a spray tank. To this solution is added ½ gallon of sulfonated water gas creosote oil made by reacting 25 parts of concentrated commercial sulfuric acid with 75 parts, by volume, of a fraction of water gas creosote oil boiling between 200° C. and 350° C. If desired the sulfonated water gas creosote oil may be first added to the water and the concentrated lime-sulfur subsequently added. As is usual, the spray material is agitated in the spray tank. Upon the mixing of the materials in the spray tank, sulfur is precipitated in very finely divided form along with a semi-solid organic mass having ovicidal properties and a mineral precipitate which is essentially calcium sulfate. If desired, other materials such as lime or arsenicals, which are commonly used with sulfur fungicides, may be added.

Calcium Hypochlorite. 2,007,429 (July 9, 1935; appl. July 31, 1933; in Germany Aug. 4, 1932). Heinrich Klopstock, Aussig-on-the-Elbe, and Alfred Wurbs, Bokau, Czechoslovakia.—A method of making readily filterable neutral calcium hypochlorite consists in chlorinating calcium hydroxide or basic calcium hypochlorite in presence of solutions containing calcium chloride, the final ratio between the weight of the solid chlorination product and that of the liquid phase being maintained at 1: at least 6 and the calcium chloride content of the liquid phase at the end of the chlorination being less than 300 gms./liter, and directly separating off the solid chlorination product. The method described yields calcium hypochlorite preparations which, after drying, contain 80-85 per cent of active chlorine and are satisfactorily stable.

Insecticides. 2,007,721 (July 9, 1935; appl. May 17, 1930). Frank F. Lindstaedt, Oakland, Calif.—Hercules Glue Company, San Francisco, Calif.—A new composition of matter for use as an insecticide, ovicide, and parasiticide comprises alginic acid having added thereto nicotine alkaloid in quantity greater than that sufficient to satisfy the valence of the alginic acid. In the commercial preparation of this parasiticide so as to provide a composition containing some free nicotine alkaloid for the purposes described, it is preferable to use about the following proportions. To 100 pounds of a water-jell of alginic acid (also termed fibrous alginic acid—see Patent 1,814,981) containing about 12 per cent of absolute alginic acid, is added 50 pounds of 40 per cent nicotine alkaloid. The resulting mixture is then agitated until a clear viscous solution or dispersion is obtained.

Insecticide. 2,007,722 (July 9, 1935; appl. May 17, 1930; divided and filed Apr. 17, 1933). Frank F. Lindstaedt, Oakland, Calif.—Hercules Glue Company, San Francisco, Calif.—The patentee claims water insoluble nicotine abietate.

Process for Manufacturing Bactericidal Products. 2,008,131 (July 16, 1935; appl. July 10, 1933; in Germany July 12, 1932). Wilhelm Dieck, Berlin, and Sally Schiff, Berlin-Charlottenburg, Germany.—A process for preparing a bactericidal article consists in applying silver permanganate to a carrier and reducing the permanganate to form silver manganate.

Disinfecting and Insecticidal Agent. 2,010,443 (Aug. 6, 1935; appl. May 6, 1933). Robert L. Sibley, Nitro, W. Va.—The Rubber Service Laboratories Company, Akron, Ohio.—An insecticide comprises an alkali metal or alkaline earth metal salt of a sulfuric acid derivative of the reaction product of a monohydric aliphatic alcohol containing less than seventeen carbon atoms and a hydroxy substituted dairyl containing more than eleven but less than twenty-one carbon atoms as a constituent thereof. As examples of the new and preferred class of materials and falling within the scope of the present invention are the soluble salts, as for example, the sodium

salts of the sulfuric acid derivatives of the following reaction products: reaction product of normal butyl alcohol and a mixture of substantially 85 per cent ortho hydroxy-diphenyl and substantially 15 per cent para hydroxy-diphenyl; reaction product of normal butyl alcohol and a mixture of substantially 95 per cent ortho hydroxy-diphenyl and substantially 5 per cent para-hydroxy-diphenyl; reaction product of iso-propyl alcohol and a mixture of substantially 95 per cent ortho hydroxy-diphenyl and substantially 5 per cent para-hydroxy-diphenyl; reaction product of normal butyl alcohol and ortho-hydroxy-diphenyl; reaction product of iso-butyl alcohol and a mixture of substantially 95 per cent ortho-hydroxy-diphenyl and substantially 5 per cent para-hydroxy-diphenyl; reaction product of normal amyl alcohol and a mixture of substantially 95 per cent ortho-hydroxy-diphenyl and substantially 5 per cent para-hydroxy-diphenyl; reaction product of cyclohexanol and a mixture of substantially 95 per cent ortho-hydroxy-diphenyl and substantially 5 per cent para-hydroxy-diphenyl; reaction product of octyl alcohol and a mixture of substantially 85 per cent ortho-hydroxy-diphenyl and substantially 15 per cent para-hydroxy-diphenyl; reaction products of alpha-dinaphthol and beta-dinaphthol with normal butyl alcohol, iso-propyl alcohol, iso-butyl alcohol, normal amyl alcohol, iso-amyl alcohol, cyclohexanol, octyl alcohol, cetyl alcohol and benzyl alcohol respectively; reaction products of alpha-naphthyl phenol and beta-naphthyl phenol with normal butyl alcohol, iso-butyl alcohol, normal propyl alcohol, iso-propyl alcohol, normal amyl alcohol, iso-amyl alcohol, cyclohexanol, octyl alcohol, cetyl alcohol and benzyl alcohol respectively. The examples set forth may be employed alone as an insecticide or disinfectant in the form of an aqueous solution or as a solution or suspension thereof in a petroleum hydrocarbon, as for example kerosene and the like. Preferably, however, the preferred class of materials is employed in conjunction with one or more additional insecticides, disinfectants and the like. Thus, as a specific example, the sodium salt of the sulfuric acid derivative of the reaction product of substantially two molecular proportions of butyl alcohol and substantially one molecular proportion of a mixture of substantially 95 per cent ortho-hydroxy-diphenyl and substantially 5 per cent para-hydroxy-diphenyl may be employed in conjunction with soluble silico-fluorides with a resulting improvement in the moth-proofing qualities thereof.

Antiseptic. 2,010,512 (Aug. 6, 1935; appl. Dec. 5, 1932). Joseph Ebert, Westmont, N. J.—The Farastan Company, Philadelphia, Pa.—An antiseptic consists of equal parts of ortho-hydroxy-quinoline sulfate and the sodium salt of diphenyl-disazo-ortho-ethoxy-aminophenol-ortho-amino-benzoic acid.

Mono-Alkylchlorophenols. 2,101,595 (Aug. 6, 1935; appl. Aug. 29, 1932). Emil Klarmann, Jersey City, N. J.—Lehn & Fink, Inc., Bloomfield, N. J.—The patentee claims a mono-alkyl-chloro-phenol in which the substituting alkyl group has at least 5 carbon atoms, said compound having high bactericidal effectiveness with regard to bacteria such as *Staphylococcus aureus* or *B. typhosus*. Examples are: 2-n-amyl-4-chlorophenol (Phenol coeff. to *Staphylococcus aureus* = 500), 2-phenyl ethyl-4-chlorophenol, 2-sec, octyl-4-chlorophenol (Phenol coeff. to *Staphylococcus aureus* = 1000).

Light Stable Insecticide. 2,011,428 (Aug. 13, 1935; appl. May 4, 1931). Vanderveer Voorhees, Hammond, Ind.—Standard Oil Company, Chicago, Ill.—A method for making oil soluble pyrethrum extracts light-stable comprises adding an amino anthraquinone compound. A specific example of a concentrated emulsion suitable for dilution to yield an insecticidal or fungicidal spray is as follows: Gum ghatti 2.4 per cent, cresylic acid, 0.18 per cent, water, 35 per cent, white oil (80 seconds Saybolt at 100° F.) 62.4 per cent, 1, 4-toluido-anthraquinone, 0.02 per cent.

Paramethyl Parahydroxy Diphenyl Sulphide and Method

of Preparing the Same. 2,011,582 (Aug. 20, 1935; appl. Mar. 10, 1928; divided and filed Jan. 12, 1934). Treat B. Johnson, Bethany, Conn.—Sharp & Dohme, Inc., Philadelphia, Pa.—A new product is paramethyl-parahydroxy-diphenyl sulphide boiling at about 178-180° at 3 mm. and melting at about 67-68° C. This has valuable germicidal properties.

Deodorizer. 2,011,732 (Aug. 20, 1935; appl. Oct. 4, 1934). Alvin L. Saeks, University City, Mo.—The Puro Company, Inc., St. Louis, Mo.—This toilet bowl deodorizer holds a cake of naphthalen, paradichlorobenzene or other material.

Insecticide and Fungicide and Method of Making the Same. 2,011,765 (Aug. 20, 1935; appl. Dec. 5, 1929). Marcus T. Inman, West Nyack, N. Y.—Clarence P. Byrnes, Sewickley, Pa.—The patentee claims as a new article of manufacture, an insecticide and fungicide composition containing sulphonated and hydrolized oxygen derivatives of aliphatic hydrocarbons (Penetrol) having excess acid neutralized, and a chemical compound resulting from a reaction between said product and a nicotine.

Insecticides. 2,012,328 (Aug. 27, 1935; appl. Sept. 23, 1932). William H. Volek, Watsonville, Calif.—California Spray-Chemical Corporation, Berkeley, Calif.—A parasiticide spray comprises an emulsion of a substantially non-volatile viscous mineral oil substantially free from phyto-cidal ingredients, water, and an ammonia soap of a fatty acid.

Device for Attracting and Exterminating Vermin. 2,012,384 (Aug. 27, 1935; appl. Aug. 13, 1934). Ernst Gatti, Zurich, Switzerland.—Insects are attracted by an electric light or by musk oil to this device and are electrocuted upon contact with a silk web impregnated with hydrochloric acid or sulphuric acid or a mixture of alum with borax or sodium carbonate in glycerine.

Chlorinating Device for Water. 2,012,406 (Aug. 27, 1935; appl. Sept. 19, 1933). Walter L. Savell, Forest Hills, N. Y.—The Mathieson Alkali Works, Inc., New York, N. Y.

Inhalant Dispenser. 2,021,522 (Aug. 27, 1935; appl. July 26, 1933). Loy C. Schiff, Ashville, Ohio.

Disseminating Insect Exterminating Materials. 2,012,523 (Aug. 27, 1935; appl. Mar. 2, 1933). Clayton L. Thorne and Edgar L. Tenney, Chicago, Ill.—International Exterminator Company, Inc., Chicago, Ill.—This device provides means for generating and superheating steam and mixing same with a liquid insecticide, germicide, fumigant, deodorant, or the like in a manner that the mixture is discharged from the device in the form of a dry vapor which disseminates itself through a room and enters into remote crevices and corners where insects or vermin are prone to congregate.

Insect Trapping and Exterminating Device. 2,012,651 (Aug. 27, 1935; appl. Oct. 4, 1934). Herbert S. Beall, Norfolk, Va.—A sheet metal structure expressly designed for association with the foundation of a building to serve as a means for trapping and disposing of various types of crawling insects and vermin, especially termites, is described.

Insecticidal Oil. 2,013,028 (Sept. 3, 1935; appl. Mar. 12, 1931). Hyym E. Buc, Roselle, N. J.—Standard Oil Development Company.—An insecticidal composition consists of a non-volatile viscous petroleum oil containing not less than 0.1 per cent of insecticidal material selected from the group consisting of rotenon and rotenoids and not less than 1.5 per cent of a non-volatile highly halogenated hydrocarbon. Examples are: (A) 2 grams rotenon, 30 grams halogenated naphthalene (halowax oil) of specific gravity 1.25, 1 liter light lubricating oil; (B) 1.5 grams rotenon, 25 grams of chlorinated gasoline containing 50 per cent of chlorine, 1 liter of petroleum oil having a gravity of 27° A. P. 1. and a viscosity of 115 Saybolt at 100° F.; and (C) an aqueous emulsion containing 0.7 per cent of the composition given in example 1.

(To Be Concluded)



Carnauba wax comes from the leaves of a palm which grows in Brazil.—Photo Courtesy Irving Herman, Inc., New York.

WAXES

A Brief Study of the Polishing Waxes,— Carnauba, Candelilla, Montan, Ceresin

By Margaret J. Hausman

CARNAUBA, candelilla, montan wax and ceresin are the chief raw materials used in the preparation of many polishes. Carnauba is indispensable in practically every wax-base polish. The quality of the wax used has a direct bearing on the quality of the finished product. There are a number of different grades of this wax on the market at the present time, namely, Yellow No. 1, Yellow No. 2, No. 2 North Country, No. 3 North Country, Chalky, and Refined, the latter being obtained from the North Country grades.

Yellow No. 1 is particularly suitable for floor waxes as it gives a finer film than the others, and does not cause any discoloration of the surface. The North Country grades are used quite extensively, but considerably more care is required in manufacture to obtain a good polish. On account of the excess dirt and moisture

present in the chalky grade, it is not satisfactory for use in better grades of floor wax. Within recent weeks, carnauba wax has been introduced to the trade in flake form, which is stated to have distinct advantages over the ordinary cake type insofar as it may be more conveniently handled and even used for certain purposes where the other might not be practical. The wax in flake form is said to be purer and to be more readily saponified than the ordinary form. It promises to be a valuable new raw material, especially for the floor polish field.

Carnauba wax occurs as a white powdery exudation on the leaves of the *Corypha cerifera*, a Brazilian palm tree. The leaves are cut twice a month before they have completely opened from September to March, and they are left to dry in the sun for a few days. Then the

powdery material is brushed off the leaves, what is left after brushing being scraped off, and allowed to stand in boiling water for fifteen to twenty minutes. During this time the wax, of dough-like consistency, rises to the surface of the liquid and is skimmed off after it has cooled. This material is greenish-brown or yellowish and extremely brittle.

The wax is refined by being remelted over water, dirt being removed in this way, or by treatment with sulfuric acid. It is possible to bleach the wax white by filtering it over bleaching earths after it has been mixed with paraffin. The presence of paraffin, however, alters the properties of the carnauba, yielding a product of a softer character. Commercial bleached carnauba wax melts at about 140° F., while pure carnauba wax melts at about 184° F. Sometimes mixtures of carnauba wax with ceresin wax are made, and bleached with potassium dichromate and sulfuric acid. It has been found possible to obtain a white carnauba wax having a melting point of about 176° F. from the crude wax by fractional crystallization. The carnauba wax is partially purified by the addition of paraffin and is then dissolved in ten times its weight of benzene of boiling-point 80° to 130° F. at 131° F., and allowed to cool. At 122° F. the mixture becomes turbid, but the cooling is continued, with gentle stirring until the temperature has fallen to about 60° F. At this temperature the crystallized wax is filtered off and freed from the benzene by steam-distillation. A yellow wax paraffin mixture can be obtained as a by-product from the filtrate. It is not practical to carry the cooling down further than 60° F. because paraffin separates from the benzene solution at about 54° F.

Carnauba wax is considered to be made up of some hydrocarbon, which melts at about 138° F., ceryl alcohol, myricyl alcohol, a dihydric alcohol, carnaubic acid, and a hydroxy acid or its lactone. The wax dissolves completely in ether and in boiling alcohol. In addition to its employment in all kinds of polishes, carnauba wax finds an outlet in commerce in the manufacture of candles, wax paper, for cable covering, for certain waterproofing purposes, for the manufacture of tailors' chalk, and for pharmaceutical purposes. It stands apart from all other waxes in its ability to impart the highest luster to the polishes and preparations made from it.

Carnauba wax is indispensable in the preparation of floor waxes on account of its hardness and the bright finish which it assumes when buffed. Carnauba could not be used by itself for polishing purposes, because it would not apply properly and would scratch the surface. When properly modified, it yields a film which gives very satisfactory service. It is equally valuable in volatile solvent type wax polishes and water emulsion type waxes.

Candelilla wax is another vegetable product derived in somewhat the same manner as carnauba wax. It occurs as a coating on the stems of a weed, *Pedilanthus pavonis*, which belongs to the *Euphorbiaceae*,

and grows chiefly in Mexico. This coating exists over the entire surface of the plant. The plants, which are leafless, grow to a height of from three to five feet, and each plant yields from three and one-half to five per cent of wax. Most of the commercial wax is obtained by boiling the shrubs in water and separating the wax in the same manner as that employed for carnauba, or else by extraction with petroleic ether. The crude wax is dark brown in color and the refined product is brownish yellow, sometimes translucent. The brown product can be bleached by exposure to the sun in thin sheets. The wax is a brittle substance and is very hard, although not as hard as carnauba wax. Its melting point is 152° to 154° F. It is sometimes used as a substitute for carnauba wax, particularly in shoe polishes. In addition to being employed as a stiffener for soft waxes, it finds other commercial applications. It is sold in two grades: crude and refined.

Candelilla wax is easily soluble in turpentine, hot chloroform, and carbon tetrachloride. On account of the primitive methods which prevail in the manufacture of candelilla wax and the admixture of other similar products in the process of preparation, the composition of candelilla has not yet been accurately determined. It is considered, however, to consist mainly of a hydrocarbon, hentriacontane, together with smaller amounts of wax esters.

MONTAN wax is obtained by extraction of peat, brown coal, bituminous shale, and lignite, with benzene, petroleic ether, and other such solvents. The melting point of the wax varies, differences being due to the fact that the waxes are derived from a number of sources. The wax obtained from lignite is known as "crude montan wax". It is brownish to black in color, brittle, hard, and fibrous. It is easily soluble in hot petroleic ether and in carbon tetrachloride, and is also dissolved by hot ether and boiling alcohol. The crude wax always contains dirt and impurities, which limit its commercial application. The wax appears to contain esters of montanic acid and hydrocarbons.

Waxes of high melting point can be prepared from crude montan wax by processes involving the oxidation or esterification of montanic acid. These waxes range in color from brown to white. On being distilled with superheated steam, the crude bitumen yields a hard white product which melts at about 158° F. It appears to consist of a mixture of a fatty acid and hydrocarbon. The acid is montanic acid, which melts at 176° F. and the hydrocarbon is a saturated compound which can be readily carbonized with concentrated sulfuric acid and melts at 141° F. The hydrocarbon seems to be a decomposition product from the distillation of the extracted bitumen with superheated steam, in a vacuum. The products of this distillation are montanic acid and an alcohol, which come over in the uncombined state. The alcohol is separated from the acid by hot pressing. The still residue consists of montan pitch and ebomite wax, which

are used in the preparation of insulating materials and for the manufacture of phonograph records.

There are a number of patents covering the preparation of various types of products from crude montan wax. A pale soft waxy substance can be produced by heating montan wax and oxalic acid and passing air through the mixture at 248° F. A substitute for beeswax is made by treating montan wax with chlorine gas in the presence of sodium hydroxide or calcium hydroxide. This finds uses in different types of polishes. Another patent deals with the production of a waxy material by the esterification of montan wax with methyl alcohol, reducing the acid group by hydrogenation in the presence of a nickel catalyst. The melting point of this product is about 185° F. A wax suitable for use in shoe polishes and floor polishes is made by esterifying bleached montan wax and fatty aromatic or hydroaromatic acids such as coconut oil fatty acids with a polyhydric alcohol such as ethylene glycol in the presence of a catalyst such as sulfuric acid. A wax can be made by the oxidation of montan wax with acids such as dichromic acid in the presence of glacial acetic acid.

Montan wax is sold as crude, powdered, and bleached. It is chiefly used as a substitute for carnauba wax in the manufacture of polishes and as an insulating material in place of ceresin. It is also used mixed with tar for waterproofing materials for roofs.

CERESIN, which is refined ozokerite, is used to a large extent in floor polishes as well as in the manufacture of candles. It is prepared from ozokerite, a natural bituminous product which is most commonly obtained from Galicia. It occurs, however, in many other parts of the world, chiefly in Roumania, Utah, the Argentine, and the Orange Free State. It is interesting to note that the hardness of ozokerite depends upon the depth at which the product occurs. The lower the layer in the earth, the softer is the material. Boryslaw ozokerite is found sometimes to a depth of about 300 feet, while at a depth of 600 feet this substance no longer appears, but in its stead is found a mixture of paraffin and petroleum of a smeary consistency. The soundest theory in regard to the origin of ozokerite is considered to be the one which holds that this substance is a natural petroleum residue. This theory is founded on the fact that ozokerite-like materials can be obtained from many petroleum by separating a residue from the oil which either settles on standing or can be obtained when gentle heat is applied to remove the more volatile hydrocarbons which are present in the oil.

Ceresin is prepared by heating the crude ozokerite with sulfuric acid and stirring constantly. The conditions under which the refining is conducted, such as the amount of acid used, temperature, and time allowed for the reaction to take place, must be carefully controlled and adapted to the raw material being treated at any particular time. Excess acid, too high temperatures, and too long a time allowed for interaction result in con-

siderable loss and also lead to inferior products. The material thus prepared is decolorized by treatment with carbons and is filtered through a press. The cakes left in the press are extracted with volatile solvents to recover whatever ceresin has been retained. The product is generally yellow, but it can be made white and odorless by additional refining. Ceresin bears a strong resemblance to beeswax, and occurs only in an amorphous form. Its melting point lies between 142° and 172° F. Ozokerite is sold in three forms, namely, white, yellow, and hard green, while ceresin occurs on the market as white, yellow, and orange. Some grades of ozokerite are soft and plastic while others are hard and brittle.

On account of its high price, ceresin is very widely adulterated with paraffin wax and bleached rosin. Carnauba wax is sometimes added to mixtures of this type in order to raise the melting point. The most important test in the commercial valuation of a sample of ceresin consists in the determination of the melting point. The presence of rosin can be detected by a determination of the acid value and also by the Libermann-Storch reaction. Carnauba wax shows up in the determination of the unsaponifiable matter. The presence of paraffin wax can be detected by examining a sample under the microscope.

Among the other waxes which are less important as far as the polish manufacturer is concerned, are beeswax and paraffin, although all the waxes may be important insofar as the manufacturer may find occasion to draw on one or the other to achieve a particular modification he may desire in his finished product. The film produced by any wax should be reasonably hard, and also durable and "self-healing". At the same time, it should be capable of smooth, rapid application and fairly easy rubbing. If the wax is softer than practical, the film will gather dust quickly, and more hard wax must be added to remedy this difficulty. The proportion of hard wax to soft wax in any product, is, therefore, dependent upon the requirements of the desired polish.

Paraffin, which is the cheapest of all the waxy materials, is sold on a basis of melting point, the higher the point the higher the price. Today, it is altogether a by-product of the petroleum industry. It finds a legitimate place in modern floor waxes up to a limited percentage to impart a desired plasticity to the finished product. Beyond this percentage, it becomes an adulterant, used to increase the total wax content of the polish at as low a cost as possible. Many of the cheap floor waxes,—especially those sold on public bid at very low figures,—carry a large percentage of paraffin and very little carnauba and other polishing waxes.

The oxidation of fats and oils by micro-organisms gives peroxides, oxy acids and aldehydes. It is analogous to the action of light and oxygen. L. M. Horovitz-Vlasova and M. J. Livschitz. *Zentr. Bakt. Parasitenk.*, 11 Abt., 92, 424-35.

TERMITES

By Dr. James W. Laurie*

Schlitz Brewing Company

TERMITES, better known as white ants or flying white ants, are not ants but are a species of roach. They are probably the most interesting of all insects because they are the oldest in time that we know about, they are the most intelligent, and they are from all viewpoints the most scientific of our insects excelling as engineers, builders, chemists, physicists, air conditioning experts, wireless communicators and as farmers. When such a statement is made, we must consider the higher classes of the over 1,100 different species of termites. They are the most highly organized group politically of any living thing on our earth. Their civilization, which is the earliest known to man, preceded man by probably as long a period as 100 million years. They are the most intelligent and in some ways the most logical, the most complex and the best fitted to the difficulties of existence of all living things up to the advent of man.

Instinct in insects is equivalent to intellect in man. The termite has been able to organize and to make his position on earth practically impregnable, to maintain his cities or colonies, to control conditions in these cities within such a narrow degree of variability as to insure the continuance and existence of its species throughout the ages in spite of the enormous changes in conditions on this earth, from glacial period to tropical and back again. They have become little by little the most deeply rooted, the most tenacious, the most formidable of all occupants of this globe outside of man. They present an intelligent life of a political and economic organization which through evolution has reached a height of perfection from the purely practical viewpoint such as has been reached by no other living thing.

The family of the termite colony consists of the mother or queen, the father or king, the worker, soldier and less distinctly the nurses, policemen, special types and finally the sex group, male and female, who grow wings and at certain time of the year leave the termitery in the so-called nuptial flight, to try to found new colonies.

The mother of the colony has probably been one of the winged virgins who left an older colony in the nuptial flight and succeeded in starting a new colony of her own. Accompanied by a winged male, they together have escaped the destruction that falls to the lot of almost all of the flying brides and grooms. They crawl into a crevice and soon the female starts laying eggs. These eggs develop into workers who in a short time start to provide for the queen or mother and the king or father. Gradually the development of the termitery goes on until it reaches a good size and the routine and ways of living

become established. The queen is unable to feed herself, in fact only the workers are able to feed themselves and all the other types of the group must depend upon the worker for food.

The mother keeps on laying her eggs until there are enough workers to provide for the royal pair, then other types are brought into existence. As far as we know, the eggs of the queen are all alike but like some of our other insects, it is possible to produce from these eggs at will, workers, soldiers, winged male and female fliers, nurses, policemen, etc. This is a remarkable development in living, that at will any different type of termite may be reared from apparently the same egg. It may be that a very careful study of these eggs by means of X-rays, etc. will show slight differences in structure and that it is due to such differences that the different types are possible.

The queen, full grown, can lay eggs at the rate of about one per second and she can keep this rate up over a long period of time. It is thus possible for her to lay as many as 30 million eggs in a single year. In her home life, she is tended constantly by a corp of nurses who remove the eggs as they are laid, to a certain designated room and also by a group of workers who constantly feed the queen. The amount food which she consumes is enormous. When you consider the laying of 3,600 or thereabout, eggs per hour and each egg about the size of a pin head, you can see that she must eat more than her own weight per day. The eggs are placed in special rooms which are controlled as to temperature and humidity. Through this control and through special feeding, it is possible to produce from a group of eggs, only soldiers, only workers, only winged males and females. A command apparently goes out from a central control that more workers are needed and this command is obeyed and the conditions are set for the development of workers from the eggs. So with soldiers, when enemies are about, greater protection is needed and these fierce looking warriors are brought out.

The queen gradually increases in size and her abdomen becomes very large compared to the rest of her body. Often she is walled in under a curving dome and is a prisoner for life. When her egg laying functions show a slowing up, then her value to the colony lessens and she is condemned to die. This is easily accomplished. She is unable to feed herself and so is starved to death. As soon as she is dead, she is promptly eaten as there is no waste allowed in this colony life. A new queen, who has been reared for just such an emergency, takes the place of the old queen and life goes on at the same rapid

* Address with motion pictures before the 23rd annual mid-year meeting, Natl. Assn. Insecticide & Disinfectant Mfrs., Chicago, June, 1936.

pace. As the queen usually is a very choice article of food, she has to be guarded at all times by soldiers or policemen to keep the workers from taking a nibble of her choice sides. Some queens have been found with bodies so extended from the food consumed and the eggs layed as to be as much as 12,000 times as large as the normal worker termite. The king is much smaller than the queen and his sole function in life is to fertilize the eggs. He has to be fed like the queen, and as soon as his activities are impaired he is starved and consumed and a new male takes his place.

The workers are the background of the colony. The termite aside from the worker cannot feed himself and in fact cannot gather any food. He depends on the worker who with a rasp like tongue and jaws is able to file off thin small shreds of cellulose from old wood such as trees, our homes, etc. and these he swallows. He could not digest this material but for the presence in his digestive tract of certain forms of protezoa which can engulf the fine particles of cellulose and convert them into a sugar like substance. The worker is able to regurgitate this partly digested material and feed it to the other members of the colony. The termite would soon starve without the protezoa and the protezoa would soon die without the termite to furnish it with cellulose. They form a mutual benefit association. All of the members of the termitery are blind excepting male and female bridal couples who have rudimentary eyes which are soon obscured when they start a new colony.

The policemen and soldiers are an army of protection. They develop large mandibles with long arms holding pincer claws. Often the arms and claws are larger than the rest of the body. If by any chance the termitery is disturbed by enemies such as the ant, and an entrance has been made into the termitery, these soldiers will at once form a circle around the break and fight off the enemy while at the same time the workers will proceed to seal the soldiers into the gap and finally close the break and the soldiers are part of the seal, a living wall and a slow death. This is done without any apparent shrinking of the soldier from that duty which means death. It is not a question of the life of the individual soldier but of the saving of the colony as a whole. In many termiteries, the policemen, although like their soldier brothers, have a much smaller set of mandibles. Their duty is to patrol the termitery and to see that all is in order, that there is no confusion and that all of the traffic regulations are obeyed.

There seems, in some termiteries, to be a special group of sexless workers whose sole duty is to take care of the eggs and the nymphs. They wash and massage the queen and take care of her needs but they differ from the regular workers in that they do not gather food.

There are also a few special types of termites. There is, in one species, a soldier who has a syringe instead of mandibles and from this syringe it can squirt a sticky fluid for a distance of an inch or two and when this fluid strikes the enemy, the fight is over because the enemy

can no longer move. Another type acts as a storage bin and the workers feed the sugar substance to this termite and he stores the sugar, his body enlarging to many times the normal size. When the food is needed, then the storage bin is tapped and food is at hand as required.

The termiteries of the different species vary greatly in size and kind. In certain places in Africa and Australia, the termiteries often are 18 to 20 feet high above the ground and as many below ground. It is a remarkable feat of engineering, architecture, and chemistry that these little insects, only about $\frac{1}{4}$ in. by $\frac{1}{16}$ in. can plan, build and maintain these enormous structures. In comparison to man with a height of five and a half feet, the termitery of this kind is equivalent to a structure some 8,000 feet high and about the same in circumference. We humans have no such structures to boast about and these structures are conceived, planned and built by insects that are blind and live in darkness. The insides of the termiteries are divided into galleries with rooms at different levels and the ramps leading up and down from a central place. Certain of these rooms and the approaches to them are maintained at very uniform temperatures and at definite humidities. Into particular rooms they bring the eggs that are to be workers, into other rooms the eggs that are to be soldiers, etc. In lower rooms kept at high humidity the worker plants in beautifully straight rows, spoors of small mushrooms and by maintaining the temperature and humidity at desired levels he grows these mushrooms and when ripe, he harvests them, carries them to the rooms near the top of the termitery where it is warmer and the humidity is low and there the mushrooms are dried and then ground into meal and held as a reserve food for the colony.

The termite has methods of communication and we may regard him as the first of our wireless physicists. Often the galleries of the termitery extend several hundred feet in all directions and yet when danger threatens, the fact is known almost at once throughout the entire termitery. Apparently their hearing is very acute, probably much shorter vibrations or wave lengths affect them through their feelers than affects humans. Again, although sightless their movements throughout the termitery are very certain. Their sense of smell is also very well developed. It is interesting as to why and how the termite can determine where there is food. In an office in Memphis, a chair stood in one place for quite a period of time and when there was a meeting of humans in that office and the chair was required. The man who sat in it found himself on the floor. The termites had smelled the chair leg through the wooden floor and had the eaten their way through the floor and up the chair leg, avoiding the light and leaving a shell of wood so that to the human, there was nothing wrong with the chair leg until he found out differently when he sat in the chair.

As chemists the termites have developed a cement from

(Turn to Page 101)

A Few Notes on

MOTH CONTROL

By A. H. Pettinger

Wakefield, Yorks, England

THE life and habits of the common clothes moth have given rise to a very extensive literature, while accounts of methods for restraining the destructive behavior of this important insect are numerous enough to fill many pages in the scientific literature. Yet the depredations continue and yearly many thousands of dollars are lost through this damage which might otherwise be prevented. One is left to wonder whether or not textile manufacturers and furniture makers are not after all sympathetic with the insect which damages so many of their products and thus indirectly aids the sale of new ones.

There appears to be a lot of confused thinking where mothicide preparations are concerned and there often arises some obscurity as to the exact scope and field of application of an insecticide of this nature, or of a new process. Some proposals deal most particularly with the prevention of moth infestation, while others have their most useful application in the extermination of insect infestation already existent. Again, some methods are essentially temporary and transitory in their effect, while some produce a permanent change in the nature of the fibrous material so that future attack is prevented for all time.

Between these various divisions some sort of line should be drawn thus effecting some sort of classification of the known processes of moth control. Clearly, some such species of arrangement is necessary under the existing state of affairs wherein the literature is already large and likely to grow larger.

It is proposed then, to identify two different lines of divergence in the known methods of moth control:

- (1) Essentially preventive in action. Such methods being applied in manufacture, prior to use. The same may be perhaps further sub-divided into:
 - (a) permanently preventive,
 - (b) temporarily preventive.
- (2) Essentially curative in action. Such methods are used where moth infestation is already apparent, and in consequence may often be drastic and searching. As a rule processes of this kind are of the intermittent variety.

In justification of the above system, consider a few of the familiar control methods. Thus paradichlorbenzene (Brit. Pat. No. 19,688 to the Berlin Aniline Co.), is of the curative type, class(2) whose usual method of employment is intermittent. The effect is only temporary and so has no claim to classification(1) unless we regard it as a very temporary preventive. Incidentally, it may

be of interest to note that Billings (*J. Econ. Entom.* 1934, p. 401) finds this compound ineffective against clothes moth.

According to R. Burgess heat destroys moth life, (*J. Soc. Dyers and Col.* 1935, p. 85). A temperature of 140° F. for 2 to 3 hours kills moths at all stages of their life history. Again, Brit. Pat. No. 418,942 destroys infestation in animal fibers by first heating to 150° F. and then storing the goods at freezing point. In the light of the above classification, heat and temperature change is a curative and temporary measure and comes under class(2) as does paradichlorbenzene, neither of which processes give any lasting immunity to the wool fiber against future attack.

A mixture of three parts by volume ethylene dichloride and one of carbon tetrachloride gives a composition, which on vaporization is mothcidal, yet not toxic to human life as is hydrocyanic acid, and is a useful measure for fumigating rooms and cupboards when infested. Five quarts per 1,000 cubic feet of space is stated to kill moth life at all stages and is non-inflammable. Classification(2). Naphthalene, sulfur and turpentine, all come under the same division.

Recent research in moth control compounds has resulted in the discovery of numerous methods which may be classed as preventive and of these, the majority of them are permanent in the immunity they confer on animal fiber. Investigators in recent years have attempted to improve on that historical moth-proofing dye-stuff, namely Martius Yellow which was one of the earliest aniline colors, the aim being to find compounds which can be attached to the wool substance and that should not spoil the appearance of a fabric, or possess an odor.

Perhaps the most successful Class(1) moth control method of familiar usage is that of sodium fluoride and silico-fluoride. These are generally applied to animal hair and fiber in aqueous solution, with the intention of leaving a residual amount on the goods permanently. For proofing upholstery of mohair, for instance, Minaeff and Wright (*Ind. & Eng. Chem.* 1929), impregnate the goods in a 0.1 per cent bath of sodium silico-fluoride for 15 minutes in order that the fiber picks up 1.2 per cent of its weight of the compound.

Resistance of woolen goods to moth grubs has been reported by Burgess in consequence of immersing the fabrics in 0.5 per cent silicofluoride solution for 30 minutes.

The use of rotenone as a moth deterrent is protected by the Standard Oil Company's U. S. Patent 1,854,948 of 1932. Since the residue of this insecticide on the fiber left after evaporation of the petroleum solvent is stated to be of low volatility, the method can presumably be placed in class(1). One pound of derris root is mixed with a gallon of petroleum naphtha and allowed to stand for a week. It is filtered and the fabric to be treated is merely dipped in the extractive, squeezed and dried.

Innumerable fluorine compounds have been protected as mothcidal agents, for example in Brit. Pat. No. 421,885, 4-fluoro-coumarin supported in an emulsifying medium is proposed. It is claimed to protect clothes and carpets from infestation. Earlier patents include for example monofluoroacetic acid which is to be applied to wool from a 0.2 per cent solution with the addition of sodium sulfate. (Brit. Pat. No. 333,583).

One treatment which is applied in the dye bath consists in the separate application of fluosulfonic acid and a diazonium salt which on combination produce an insoluble and presumably lasting proof of diazonium fluosulfonate on the animal fibrous material. All these processes fall into Classification(1). Volatile fluorine compounds such as fluoroform (comparable with chloroform), have also been proposed whose purpose is essentially curative. (Class(2).)

The Cinchona alkaloids are interesting representatives of the Class(1), persistent type of mothicide. According to Jackson and Wassell, (*Ind. and Eng. Chem.* 1927, 19, 1175), these compounds are inodorous, non-toxic to human beings and free from tendency to spoil textile goods on which they are applied. The salts of quinidine are adjudged the most economical for technical use because they are cheaper. Alkaloidal compounds have also been the subject of patents, for example U. S. Patent 1,885,292 which applies extracts of lupinus seeds to animal fibers and fixes with a metal mordant such as alum.

Rare-earth salts and soaps have been the subject of a few protected methods of moth control which are of the preventive and persistent variety. Brit. Pat. No. 247,242 instances the use of soaps of such elements as cerium, lanthanum, didymium, yttrium, thorium, etc. More recently H. I. Jones in U. S. Patent No. 1,921,926 describes the proofing of fabric by impregnation with a mixture of: water, 375 gallons; egg albumin, 6 lbs.; cerium acetate, 66 lbs.

Termites

(From Page 99)

clay, sand and their own excrement which is strong enough for the building of these very large termiteries and which becomes so hard as to dull a pick axe and to defy tearing down except with a drill and blasting. They resist the heat of summer and the rains of the winter and they last for ages. Termites have been known to

dissolve through lead cable to get at the cellulose wrappings on the wire, to dissolve holes in the metal crowns used for sealing bottles in order to get at the sugar in the pop. There is no difficulty making out a case for the termite as a scientist. He is all combined into one. Engineer, chemist, physicist, air conditioner, wireless expert, builder, architect, farmer and politician.

It has been estimated that the economic cost in the United States due to the destruction of property by termites is about 4 to 5 million dollars per week. This is due to the fact that the termite is coming more and more into our cities. As we have laid waste our forests or have removed timber from them and have replaced forests by our farms and cities, we have removed the source of food for the termite and he has used his intelligence and is going where he can get the food he needs, that is wood,—and wood is to be had from our homes, our fence posts and telegraph and telephone posts. In this way the termite is travelling North year by year from post to post and house to house. We have just had a great deal of publicity in the newspapers about termites in Chicago. There are known to be in almost every state in the Union. They have done great damage to some of our public buildings in Washington, in New York, to precious documents, to records, etc. When we remember that the termite can live only within a very narrow temperature range and that variations of over 20 degrees in temperature will kill, again we must marvel that the termite can exist in Chicago, where we have temperature ranges of as great as —15 to over 100 degrees F., a range of over 5 times that which the termite can stand.

There are ways which have been developed for stopping and for preventing the termite from injuring our homes. The species of termite most prevalent in this country and particularly in the south is the subterranean and this termite must have contact with moisture and ground. If we trench all around an infested home and poison the ground to a sufficient depth then the termite is killed in trying to pass through this poisoned area. The floor joists can also be treated with toxic solutions under pressure so as to get penetration and by destroying the earth tunnels connecting the termitery to the wood in the house, the termites already in the wood soon die because they have no moisture. Where the termites are of the flying type so common in California, the problem is more difficult. Methods have been developed for treating the lumber used for building so that a permanent poison is absorbed into the wood. Such treatments must be made with poisons which are harmless to humans, which have no odor, which are not expensive and which will allow of the painting and other finishing of the wood as desired. Treatments of this type are on the market and can now be had at reasonable cost. Much as we must admire the termite as the outstanding insect scientist, we must watch him closely and by human scientific methods overcome the termite's destructive efforts.

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Horizons Beyond,-In Insecticides

By W. G. Griesemer*

Black Flag Company

AN old lady from the intervals of New Hampshire, was taken down to the coast at Portsmouth, where all day long she sat and looked out over the sea. Nothing could lure her from it. At least one of her nieces exclaimed, "Auntie, what in the world are you sitting here all day for just looking at the sea?" Said the old lady, "Thank the Lord, at last I've seen something there is enough of".

Back of the humor of this story lies the pathos of the cramped poverty, the endless struggle of life on a New England hillside. But there is more in it than that. What the dear old lady really felt was not so much the exhaustless fullness of the ocean as the limitless expanse, the boundless reach of a new horizon.

Her whole life had been shut up within the narrow limits of a mountain glen. For the first time she felt the expansion of soul that comes with the lifting of the barriers of space. For the first time she felt the call of far horizons, and the stirring of that purpose instinct in the soul of man to:

"Sail beyond the sunset, and the paths
Of all the western stars until I die!"

Who has not felt that sudden uplift, that sense of the breaking of inner barriers, which comes with the unexpected opening of a far vista? It may be the broad reaches of St. Louis Bay and Lake Superior, as one rounds the turn of Trunk Highway number one into Duluth. It may be the overpowering suddenness of the Grand Canyon, as one steps from the train at Bright Angel and walks the few rods up the slope to the rim to find the earth has dropped from beneath his feet and unfathomable depths of infinite space open before him, filled with inscrutable mysteries of blue haze and rainbow tinted butte, with the gleam of a ribbon of silver river a mile below. Our souls are cribbed, cabined and confined within the narrow limits of the common life. But once and again we catch glimpses of far horizons, the effect of which is to compel the transvaluations of all values, the realignment of all human interests. The discovery of America broke down the whole social structure of the Middle Ages.

The wider horizons have but expanded the meaning of existence. When the narrow mind of the villager has opened to the discovery that the distant city is full of his neighbors, life becomes larger and more meaningful. When the horizon of citizenship expands to take in the brotherhood of all mankind the way is opened to universal peace.

Lifting his head above the water, the swimmer sees

the full sweep of horizon, where sky meets sea, only a stone's throw away. High on the bridge deck of a liner, a watch-officer looks out across the ocean to a horizon only six miles beyond—but on a clear night the pilot of the Air Mail looking down on the dark world from an elevation of 10,000 feet, sees in one sweeping glance, the clustering lights of Chicago, Pittsburgh, Cleveland and Buffalo.

For there are always new horizons beyond—horizons that open up to those who climb the higher altitudes to look upon a broader world spreading below.

Twenty-five years ago prophets saw the end of our great forests, today because of substitutes for wood that might have been seen even then just beyond the horizon that lumbermen must specialize their products in order to find new customers—At about the same time experts saw the end of our coal supplies; today, because of oil and electricity that were always available just beyond the horizon, there is a glut of coal for fuel and wider horizons are being found for it in the new world of industrial chemistry.

What then, as an Association, may lie beyond our horizon of today?

It is all too common a mistake for a man to fix his gaze upon a near horizon and refuse to believe that anything of value lies beyond. It is a common mistake to continue measuring achievement by obsolete standards and to think in terms of finality.

All streets will never be laid. All the wires will never be strung. All the houses will never be built. All the sales will never be made; the great jobs that stretch to the horizon will never be done, for the horizon keeps eternally lifting to new unreachd horizons beyond. Those who will not look are simply blinding themselves to the fact that we are only at the beginning of our commercial and industrial possibilities.

In 1936 there will be a greater production of insecticides and disinfectants and many other commodities. And above our heads, the drone of the airship is singing a thrilling song of immeasurable horizons still beyond.

Aye, Lenora Speyer was right when she penned those beautiful lines:

"Measure me sky,
Tell me I reach by a song
Nearer the stars
I have been little so long

Weigh me, high wind
What will your wild scales record
Profit or pain
Joy by the weight of a word

* Address, chairman general insecticide committee, 23rd mid-year meeting, Natl. Assn. Insecticide & Disinfectant Mfrs., Chicago, June, 1936.



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Loneliness, wings for my flight."

Aye, mankind is never satisfied. Long ago the Greeks incorporated that fact in the story of Pandora's box and down across the centuries, with all the changes that have altered the face of human life, that elemental fact remains unchanged. Mankind is never satisfied. The mountaineer thinks that when he has climbed this particular mountain he will be content but when he has achieved its summit, there is always another mountain to climb. The author, the poet, the musician and executive thinks that when he has finished his particular work, he will be satisfied, but there is always another piece of work beckoning him through the alluring distances.

There we set our feet on an endless road that leads over the sunset and into the everlasting morning. The reason is simply this: Life is not a task or a series of tasks to be completed. Life is one fascinating adventure in "Becoming". The intrinsic worth of a man lies not in what he has done, nor in what he has, not even in what he is, but in what he eventually may become.

You all remember that beautiful story of Hercules when he was a youth, when he went to live with the herdsmen on the mountains, where he laid down one day in a lonely spot in one of the mountain valleys to sleep through the noon day heat. In his slumber he had a strange dream. It seemed to him in the dream that the path he was following suddenly divided into two well marked roads, and he could not tell which one he ought to take.

One looked very smooth and easy to follow and seemed to lead a little farther down the mountain to a pleasant city, the roofs of the houses which he could already see.

The other was a rough mountain road which looked very hard to climb. This one led up, up, up for a long distance, growing rougher and rougher as it ascended the mountain, till it was lost to sight in the clouds.

As Hercules stood trying to make up his mind which road to choose, he saw a young woman slowly ascending up the one which led to the city. When she reached the place where Hercules stood, she saw that he was in doubt about the two roads and eagerly advised him to take the smooth one which led so quickly to the city.

In that city, said she, you will find pleasant people who will give you freely anything that you could possibly wish for. You need not work in the dust nor in the heat of the sun but may sit in pleasant gardens where you will hear the fountains splashing and birds singing or where if you prefer, listen to the music of the lyre.

As Hercules looked toward the city, the sound of the

music came to him faintly, carried by the fresh morning breeze, that he felt inclined to follow the young woman's advice. Just then he saw some one standing in the mountain road. This was a young woman too. She wore plain white garments and her eyes were sad but brave. I will tell you the truth Hercules she said, my sister is deceiving you, the pleasant things they offer you in the city on the plains below us are not worth the having for in the end you will pay the price for them of which you little dream. Do not go to the city, but come up that mountain road with me. The mountain road is hard to climb and as you go higher, it will grow harder and harder, but you will have delights of which you will never tire.

You will get the mountain air in your lungs and this and the hard climbing will make a man of you.

If you have the courage to climb high enough, this mountain road will lead to Mt. Olympus at last and there you will live forever with the gods who cannot die. In his dream Hercules was wise and chose the mountain road.

Friends, as an Association, what road are we going to choose?

This is the challenge?

The survival of the fittest—that phrase has been used to prove numerous things since Darwin first sent it forth out of the dim reaches of obscurity. So often it has been looked upon as something static, something which was true years and centuries back, but no longer applied today. This is an illusion. The fit are always surviving.

Today our Industry is faced by problems perhaps greater than at any other time. Today the static organization will be replaced by one which is dynamic. We, who remain, must know our job better, we must make better products, instill confidence both in the consumer and the outlets which we service.

We must gain today greater organization, greater enthusiasm, greater vision, greater power of leadership, otherwise, we lose.

Competition today is more intense, more complex, and that requires from you and me a new adaptation, a new interpretation of our responsibility.

The world is changing. Economically the changes today are abrupt, drastic and decisive. Who will survive? Who will escape, when the walls are falling? Who will be secure because the structure he has built is strong enough to resist the rumbling and the grumbling around its foundation?

There is the challenge. We shall meet it because we must. Are we as manufacturers moving along in the van of the procession, or lagging on the way back from the depression. Now is the time to assume the characteristic of leadership.

Now is the time to ask ourselves, "Are we fully fitted for the task, will we carry on, by giving the best we have to our task as an Industry and Association.

Will we accept the challenge?

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About MOTHS-

Information and Misinformation

NOW the public has been told how to fight moths. In a brief summary of information and misinformation, *Consumers Union* tells how to do it and what to use. *Consumers Union*, by the way, is the newest of these consumer protective organizations, yearly dues to which are \$3. A monthly report for its membership is issued, and it is in the June issue of this that moths come up for discussion. Arthur Kallet, who was formerly associated with *Consumers Research*, is director of the new organization and D. H. Palmer is technical supervisor. (In our opinion, some of his supervising in the matter of information about moths was a trifle lax.)

After estimating the yearly moth damage at a quarter-billion dollars, the report covers the general features of moth control quite accurately and fully. It states that there is no easy or sure method of eliminating moths, that constant vigilance is essential, that dry cleaning will destroy moth life present, that storage against moths must be practically air-tight, that cedar closets and chests soon lose their protective value (if they ever had any), that moth-killing agents must come in contact with the moth, egg, or larvae to kill, that some moth-killing agents have bad tendencies to stain garments, etc.—all of which are true.

The moth report then goes into definite recommendations of various commercial products, both for and against, in three classes: 1. Best Buys, 2. Also Acceptable, 3. Not Acceptable. The two best buys for moth control are listed as naphthalene and paradichlorbenzene. They recommend sealed containers, such as chests or trunks, in the use of these materials. They recommend the use of one pound of naphthalene to each 6 to 10 cubic feet, which is correct, and then recommend a pound of para for each 20 to 30 cubic feet which is incorrect. Naphthalene and para are equally effective, if we are to believe the results of work by the Department of Agriculture, and the maximum space in which one pound of either can be effective as a moth repellent is ten cubic feet. Used as they direct, paradichlorbenzene would be useless as a repellent. (Score one against the report.)

They then state that the use of gum camphor is "also acceptable" for moth work, recommending one pound to each 5 to 8 cubic feet at 75 cents per pound. And they are supposed to run a service to tell working people how to live better for less money,—and they state that gum camphor is "also acceptable" when naphthalene is available in every drug and department store at 15 cents per pound,—and almost twice as much gum camphor

is needed to do the work.—a cost of ten times naphthalene. (Score one more against the report.)

Pyrethrum Powder for Moths?

THE report then recommends the use of pyrethrum powder as "also acceptable" for "thoroughly dusting garments." They say it must be fresh pyrethrum powder,—not the drug store kind,—containing 0.9 pyrethrins and costing 60 cents per pound. First of all, imagine a blue serge suit or a black wooly overcoat being dusted thoroughly with *fine* pyrethrum powder (the kind which is used for dusting),—and think of how they would look when removed from the moth-proof chest next winter. And imagine Joe Frugotz, laborer in a steel mill, (don't forget that these reports are for laboring people,—that they may live better cheaper) getting his pyrethrum by mail and rushing to the well-equipped laboratory in the attic of his home to test it and see that it does contain a full 0.9 per cent pyrethrins,—and to his horror finds that it runs only 0.78, and he forthwith ships it back to his supplier accompanied by a letter stating that it does not come up to *Consumers Union* specifications and please ship two pounds of sure-enough 0.9 per cent stuff by return mail. And while waiting for it to arrive, the moths raise hobbs with his best Sunday suit. (This is too much,—especially trying to brush out the pyrethrum powder from his clothes next fall. Score two against the report here,—one for recommending powder at all for moths, and one for being so foolish as to specify a pyrethrin content to the general public,—making a total of four scores against.)

And now comes the use of kerosene spray for spraying or immersion of garments therein for killing moths. "Dissolve $\frac{1}{2}$ to 1 pound of pyrethrum in one gallon of white kerosene. Stir occasionally for two hours; let settle; then carefully pour off the liquid into a closed container. Add to it, about 3 ounces of artificial oil of wintergreen if it is wished to disguise the kerosene odor. This also makes a good fly and mosquito spray when the larger amount of pyrethrum is used." (And after our long and learned dissertation on "Moth Sprays" in the March, 1936, issue of SOAP! Is there any wonder that we blush for the author responsible?) First of all, anybody who can *dissolve* pyrethrum in kerosene, whether white or black kerosene, is a chemical genius. In the second place, imagine immersing a garment which one might desire to wear again at some future date in kerosene. The point is that ordinary kerosene is too heavy, too greasy for a moth spray (some insecticide manufac-

(Turn to Page 111)

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Pyrethrins in the Field Daisy?

An Investigation of the Common Field Daisy for Pyrethrins or Other Insecticidal Properties

By Fred Acree, Jr. and F. B. LaForge

Division Insect. Investigations, Bur. Entomology & P. Q.¹
U. S. Department of Agriculture

SEVERAL members of the genus *Chrysanthemum* are reported to possess insecticidal properties¹, but only three are of economic importance in this respect. Some other members are reported to be inert¹, and of these the common field daisy (*Chrysanthemum leucanthemum*) is the most accessible.

With improved methods of isolation³ and analysis^{2,4} of the pyrethrins, it seemed of interest to subject the field daisy to the same processes, in the hope not so much of isolating the pyrethrins themselves as of discovering chemically related substances. Such substances might be expected to possess structures that would enable them to be determined by the usual quantitative analytical procedures.

When the dried and ground flower heads of the daisy were extracted with low-boiling petroleum ether and the solvent was removed, an oleoresin was obtained which in appearance closely resembled the corresponding product from pyrethrum flowers. When this oleoresin was subjected to analysis by the method of Seil⁴ and that of Haller and Acree², an apparent content of 5 per cent of each of the two pyrethrins was indicated.

The oleoresin was then subjected to the procedure of LaForge and Haller³ to separate the pyrethrins from the fats, waxes, and fatty acids. Under this treatment the material behaved in a decidedly different way from pyrethrum oleoresin. It was especially significant that in the preliminary treatment with acetic acid comparatively little substance was found in the solvent which in the case of pyrethrum oleoresin contains the pyrethrins.

Analysis of the isolated soluble material indicated that the percentages of substances that might be reported by the Seil method as pyrethrins I and II had increased only to about 9 and 6 per cent, respectively, while the methoxyl method indicated only 3 per cent pyrethrin II.

In the next step of LaForge and Haller's procedure, which consists in agitating the material in aniline solution with potassium carbonate solution to remove fatty acids, the losses were again far greater than with the material from pyrethrum flowers, and analysis of the product indicated a loss in the apparent pyrethrin content. At this stage the material was tested for toxicity

to flies². In a dilution of 1:4 it gave only a 2 per cent kill after 24 hours.

Finally, the material so obtained was treated with semicarbazide under conditions suitable for the preparation of the semicarbazones of the pyrethrins. No crystalline product could be isolated.

It must be concluded that no appreciable quantity of the pyrethrins is present in the daisy flower and that what is indicated as such by the usual methods actually consists of other substances containing methoxyl and acids with properties similar to those of the pyrethrins.

Experimental

Six kilograms of dried, finely ground daisy flower heads was percolated with low-boiling petroleum ether. On evaporation of the solvent, 104 grams of resinous, fatty oil was obtained. Analyses showed this oily material to contain, by Seil's method, 5.16 per cent pyrethrin I and 5.06 per cent pyrethrin II, and by the methoxyl method 3.65 per cent pyrethrin II.

Fifty grams of the oily material was purified by dissolving in 75 cc. of glacial acetic acid and adding another 75 cc. of acid diluted with 15 cc. of water. The mixture was cooled in ice and the separated fats and waxes were filtered off on a cold funnel. The separated acid solution was clarified with charcoal, diluted with water, and extracted with petroleum ether. The ethereal solution was washed and dried over sodium sulfate, and the solvent was partially removed by evaporation on the steam bath, and the remainder under reduced pressure. Four grams of viscous oily material was obtained, which, by Seil's method, analyzed for 9.23 per cent and 6.27 per cent pyrethrins I and II, respectively, while by the methoxyl method the percentage of pyrethrin II dropped to 3.44.

Twelve grams of oil obtained from the acid treatment was dissolved in 34 grams of aniline. To the cold aniline solution was added a cold solution of 12 grams of potassium carbonate in 50 cc. of water. The mixture was then shaken in the cold for 5 hours. A very dense emulsion was formed, which could be separated only by centrifuging. The aniline solution thus obtained was run slowly into cracked ice containing sufficient concen-

¹ We are indebted to P. S. Schaffer for technical assistance in this investigation.

² The toxicity tests were made by W. N. Sullivan, of the Division of Control Investigations of the Bureau of Entomology and Plant Quarantine.

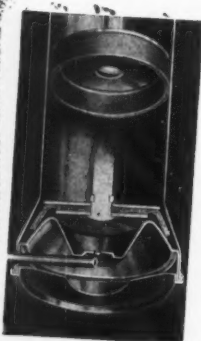
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trated hydrochloric acid to make the mixture strongly acidic. This mixture was extracted with petroleum ether, and the solution was washed, dried over sodium sulfate, and partially evaporated on the steam bath. The last traces of the solvent were removed under reduced pressure, leaving 3.1 grams of oil, which contained, according to the methoxyl method, 7.48 per cent pyrethrin II and, according to Seil's method, 3.62 per cent of pyrethrin I and 4.89 per cent of pyrethrin II.

Five grams of the aniline-treated daisy oil was dissolved in 7 cc. of 95 per cent alcohol and 3 cc. of pyridine. To this was added 0.8 gram of semicarbazide hydrochloride dissolved in 2 cc. of water. The flask was stoppered and allowed to stand at room temperature for 4 days. The contents were then mixed with ether, and the ether solution was washed with water, then with dilute hydrochloric acid, and finally with water. The solution was dried and 5 grams of oil was obtained upon removal of the solvent. This oil was seeded with an authentic mixture of the semicarbazones of the pyrethrins, but without inducing crystallization.

Summary

The latest methods of isolation and analysis of the pyrethrins were used on an oleoresin prepared by extracting the dried flower heads of daisy flowers (*Chrysanthemum leucanthemum*) with petroleum ether. The oleoresin was purified and subjected to the procedure for preparing the semicarbazones of the pyrethrins. No crystalline material could be isolated from the reaction mixture. The purified oleoresin was nontoxic to flies.

These facts prove that the oleoresin of *Chrysanthemum leucanthemum* contains no appreciable quantity of a material possessing a structure very closely related to that of the pyrethrins.

Literature Cited

¹ Gnadinger, C. B. "Pyrethrum Flowers," 269 pp., Minneapolis, 1933.

² Haller, H. L., and Acree, Fred, Jr., Ind. Eng. Chem., Anal. Ed., 7, 343 (1935).

³ LaForge, F. B., and Haller, H. L. Jour. Amer. Chem. Soc., 57, 1893 (1935).

⁴ Seil, H. A. Soap, 10 (5), 89 (1934).

HORIZONS BEYOND

(From Page 105)

If you think you are beaten, you are;
If you think you dare not, you don't;
If you think you'd like to win, but can't,
It's almost a cinch, you won't;
If you think you'll lose, you've lost,
For out in the world you'll find
Success begins with a fellow's will—
It's all in the state of Mind.

Full many a race is lost
Ere even a race is run
And many a coward fails
Ere even his work's begun

Think big, and your deeds will grow
Think small and you fall behind
Think that you can, and you will;
It's all in the state of Mind.

If you think you are outclassed, you are:
You've got to think high to rise;
You've got to be sure of yourself before
You can ever win a prize
Life's battle doesn't always go
To the stronger or faster man;
But sooner or later, the man who wins
Is the fellow who thinks he can.

ABOUT MOTHS

(From Page 107)

turers should also take this to heart as well as the Consumers Union) and it will leave a residual odor in stored clothes which will never completely leave unless the clothes are dry cleaned. And to attempt to make a moth spray in the manner outlined is to, first, get incomplete extraction and poor killing power, and, second, get a cloudy fluid, irrespective of the settling, which is certain to cause staining on almost any type of garment. (Score two more against the report.)

The report then goes on to give information about other products,—branded in this case,—which are "also acceptable". It states that *Fly-Tox* "contained by analysis 1¼ lbs. of fresh pyrethrum per gallon of kerosene". We would like to know just how the amount was determined "by analysis" and also how they determined that the pyrethrum was "fresh". The statements about *Fly-Tox*, *Eulan*, *Konate*, and *Rinsing Larvex* follow:

Fly Tox (Rex Research, Inc., Toledo, Ohio). About 50c a pint (49c at Liggett's). Contained by analysis 1¼ lbs. of fresh pyrethrum per gallon of kerosene. As with other liquid moth-proofing compounds, effective only if forced into all parts of the fabric. Not permanent.

Eulan (General Dyestuffs Corporation, 230 Fifth Ave., N. Y. C.). One of the "permanent" moth-proofing compounds used mainly in commercial application. *Eulan BL* for application by dry-cleaning plants; may be applied at home with proper precautions. Removed by dry-cleaning solutions, so must be applied after each cleaning.

Konate (American Cyanamid and Chemical Corporation, 30 Rockefeller Plaza, N. Y. C.). (\$1.00 a pint at Wanamaker's, N. Y. C.). Intended for commercial application. Formula recently changed, as the cinchona alkaloids previously used were found not to be stable to light. Information at hand indicates that this product is effective, but as stated previously no product has yet been found that gives permanent and absolute protection against moths.

Rinsing Larvex (The Larvex Corporation, New Brunswick, N. J.). (3 oz. cake, 50c at Wanamaker's makes

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12 gal. of liquid). Clothes must be dipped in solution. Not permanent; washes off.

Chemist or Magician?

THE third section of the report deals with products which are "not acceptable." In this section are some very funny statements,—statements about which we should like to know the basis of determination. The prize appears to be the statement about *Flit* which "contained by chemical analysis made in 1932 (and they should add, published in 1936) about 1 lb. pyrethrum to 120 gallons of kerosene". The report goes on to remark that this concentration of pyrethrum is too low. However, this is not the intriguing feature of this statement. The part about "contained by chemical analysis" is the thing which intrigues us. By what method? Who made the analysis? In 1932? Why was not another "analysis" made in 1936?

If we remember correctly, there was no recognized method in 1932 which even *purported* to determine pyrethrins in a petroleum solution,—or chemical method of determining the amount of actual pyrethrum used in a fly spray. This statement of one pound to 120 gallons of spray appears utterly ridiculous on its face. Some chemist, so-called, has apparently convinced the *Consumers Union* that he is a magician. But how can they be so gullible as to accept statements of this kind and pass them on unsubstantiated to an equally gullible public? This information could have no scientific basis in fact. Its publication is misleading, and unjust, to say the least.

The full statements about the "not acceptable" moth products follow:

No Moth, Expello, Odora Motholator, and all other similar products put up in tin-can or glass devices to hang up in the closet. No clothes closet can be made moth-proof without sealing the door tightly.

A salesperson seldom tells the customer *how many* of these contrivances should be used even in an air-tight space. The Federal Trade Commission, to protect competitors, sometimes requires this information on the label, however. On the *Odora Motholator* is the statement: "Use Motholator and 1 Cedar Fluid Compound for each 1 cu. ft. of airtight space; confine vapors emitted; keep doors, etc. closed." (*Italics, ours.*) If the makers' statements are to be accepted, an ordinary 3 by 5 by 8 foot closet would require 120 *Odora Motholators*, costing \$24.00, not to mention air-tight sealing, in order to destroy the moths!

Flit (Stanco, Inc.). Price varies; up to 50c. a pint. Contained, by chemical analysis made in 1932, about 1 lb. pyrethrum to 120 gallons of kerosene. This concentration of pyrethrum is far too low to be dependably effective in killing moth larvae or eggs. Cover odor estimated to be principally citronella and oil of winter-green. The manufacturer refuses to affirm or deny that

(Turn to Page 123)

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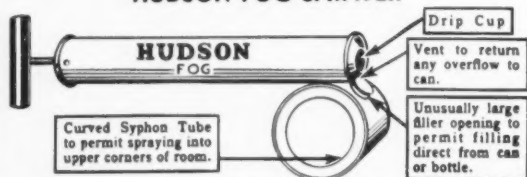


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NEWS.....

Haag Build New Laboratory

Haag Laboratories, Chicago manufacturers of a line of soaps and sanitary products, have just completed the construction of a new laboratory in their plant. V. W. Haag, head of the company, states that the business is making good progress. The newest product which the company is marketing is a pure olive oil baby soap for hospitals. It is available in bulk or in 8 oz. bottles. Another of their products which has shown a gain in sales volume is "Haag-O-Lite Pine Chrystal Compound" for dish washing and general cleaning purposes.

Check "Bif" Advertising Claims

Union Oil Co., Los Angeles, manufacturer of "Bif" insecticide, has signed a Federal Trade Commission stipulation agreeing to cease advertising its preparation by use of the phrases, "Thirty Per Cent More Fly-Killing Power than Government Requirements" or "Tests prove Bif to have thirty per cent more killing power than the Government specifications for commercial fly sprays." The stipulation points out that the United States Government provides no standard specifications or requirements for insecticides.

Kaleff Leaves Azuria

Theodore Kaleff has just resigned as vice-president and general manager of Azuria Chemical Co., Akron, Ohio. The business will continue without other change under the management of W. E. Jackson who has purchased the interest of Mr. Kaleff. Mr. Jackson was formerly secretary of the company.

Williams Asst. Surgeon General

Dr. C. L. Williams of the U. S. Public Health Service was appointed Assistant Surgeon General of the U. S. effective July 1. Dr.

Williams is directly in charge of the Foreign Quarantine Division of the Service. He was formerly Senior Surgeon of the Public Health Service and was stationed at New Orleans. Prior to that he was in charge of quarantine at the Port of New York. He is an authority on fumigation and quarantine sanitation and is well-known in the fumigating industry.

Bailey New Murray Manager

J. W. Bailey, for some years prior to 1930 general sales manager of the Tanglefoot Company, Grand Rapids, Mich., has again become



identified with the household insecticide business as general manager of the Edgar A. Murray Co., Detroit, manufacturers of "Doom" insecticide products, according to an announcement by Edgar Murray, president of that concern. Mr. Bailey who during the years between 1931 and 1936 was engaged in the advertising business and was a member of the state legislature of Michigan, was active in the affairs of the National Association of Insecticide & Disinfectant Manufacturers and was a member of its board of governors during his previous connection with the industry. Coincident with his association with the Murray organization, it is announced that several new products will be marketed under the "Doom" name.

Organize Pyrethrum Ass'n

Pyrethrum Association with headquarters at 308 W. Washington St., Chicago, has been formed by the leading American millers and processors of pyrethrum flowers and other botanical insecticides for resale to insecticide manufacturers. George A. McLaughlin, president of McLaughlin Gormley King Co., Minneapolis, was elected president of the Association at a meeting held in New York on July 10. V. L. Robertson of the Sherwood Petroleum Co., Brooklyn, was elected vice-president. R. D. T. Hallowell of Chicago was chosen secretary and manager. Robert W. Childs of Sanders, Childs, Bobb & Wescott, Chicago, was retained as legal counsel.

Membership of the Association is composed of Allaire-Woodward & Co., Peoria, Ill.; McLaughlin Gormley King Co., Minneapolis; Murray & Nickell Mfg. Co., Chicago; S. B. Penick & Co., New York; John Powell & Co., New York; R. J. Prentiss & Co., New York; Sherwood Petroleum Co., Brooklyn.

The following statement was issued from the Association office on July 16:

"The modern pyrethrum industry within the United States, though comparatively young, has had healthy growth through the perfection of the extract process by which the hitherto inconstant toxic principle contained in pyrethrum flowers is stabilized. Much technical effort has been responsible for the high efficiency of these products. The objectives of the Association include cooperative technical research directed toward the establishment and maintenance of high standards of quality by members of the Association and the development of the necessary technique by which such quality standards for both raw and finished materials may be accurately determined.

Pyrethrum flowers (*Pyrethrum cinerariaefolium*), the raw material of the pyrethrum industry is obtained exclusively from foreign sources. Japan currently furnishes from 85 per cent to 90 per cent of the total

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A sprayer designed for the convenient and satisfactory application of floor oils and floor dressings.

Air Regulator and Volume Control

The Air Regulator permits application of a fine film covering spray without floating.

A volume control adjustment to meet the requirements of the job to be done.

**WRITE NOW
FOR DESCRIPTIVE CIRCULAR**

**DOBBINS MANUFACTURING CO.
NORTH ST. PAUL, MINN.**

**A COMPLETE LINE OF SPRAYERS, MOP WRINGERS,
SANITARY CHEMICAL CLOSETS AND METAL SPECIALTIES**

and Dalmatia a substantial part of the balance. Crop volume varies widely from year to year. Crop forecasts have usually been based upon fragmentary information. There was little or no advance warning of the tremendous overproduction of pyrethrum flowers that occurred in 1935. The industry is therefore a peculiarly hazardous one in which to operate.

Pyrethrum processors suffered serious losses because of the many upsets in contractual relations resulting from the severe price declines occurring in 1935 and 1936. During this period many trade practices termed by the Federal Trade Commission to be unfair became widespread. Necessarily, such a condition in an unorganized industry resulted in confusion and, also, doubtless in many instances of discrimination as between purchasers. In view of the recently enacted Robinson-Patman amendment to the Clayton Act, by which both buyer and seller are subject to severe penalties in instances of discriminations, the members of the Pyrethrum industry are taking steps to avoid trade practices that are condemned by the Federal Trade Commission and to refrain from any practices that might be constructed as being discriminatory. In addition, the Association, by proper accounting practices and by the approval of sound and fair trading rules, will seek to reduce to the lowest possible minimum the many speculative factors that have hitherto surrounded the Inventor."

Prentiss Recovering

Richard J. Prentiss, president of R. J. Prentiss & Co., New York, is recuperating at his home at East Rockaway, L. I., following an emergency operation for appendicitis performed at St. Anthony's Hospital, St. Louis, on July 4. He was on a business trip through the middle-west and was stricken with acute appendicitis while in St. Louis and was rushed to the hospital there. He returned home on July 24 and reports from there state that he is recovering slowly.

J. L. Brenn Injured

J. L. Brenn, president of the Huntington Laboratories, Inc., Huntington, Ind. was seriously injured on June 27 in an automobile crash near Warsaw, Ind. Beside head injuries, Mr. Brenn suffered a fractured



knee and other injuries. He received emergency treatment at Warsaw and was later taken to the Huntington County Hospital at Huntington, Ind. where his leg was operated on July 7. He recently left the hospital and is confined to his home, although he states that he will be up and about on crutches in the near future. Mr. Brenn, accompanied in his car by his wife and daughter, and the child of Hurley Feltman, Huntington Laboratories representative in Indiana, collided head-on with the car of a farmer who turned suddenly out of a side road near Lake Wawasee, Ind. The driver of the other car was also severely injured.

Chemical Trade Golf

R. C. Quortrup of the Barrett Company, New York, with an 81 was winner of the Class A prize at the July golf tournament of the Chemical Salesmen's Association held at the North Hills Country Club, Douglaston, Long Island, on July 14. Sidney Moody of the Calco Chemical Co. took second prize. In the kickers' handicap, P. C. Reilly, Jr. of the Reilly Tar & Chemical Co. won first prize, followed by Herbert Kranich of the Kranich Soap Co. The guest prize was won by William Weed of Niagara Alkali Co. Prize for the lowest number of putts was won by Walter Buehler of the Barrett Co.

with 25. The next tournament of the association will be held about the middle of August at Gedney Farms, White Plains, N. Y.

Rotenone Insecticide

Toxins for the manufacture of insecticides are extracted from roots containing rotenone, such as derris, barbasco and timbo, by digesting the roots in the natural state or ground in ordinary alcohol, acidulated by pure sulfuric acid, and filtering. The filtrate which contains rotenone and other toxins is neutralized and again filtered. The final filtrate may be diluted with water and used or may be mixed with soft soap or other emulsifying agent to give a semi-solid which is diluted with water before use. The Booth Steamship Co., Ltd. and Harold G. Ward. French Patent No. 794,206.

Cloud Insecticides

A liquid or dissolved insecticide is carried to plants by a cloud of a normally solid inert substance produced by chemical reaction. The cloud is first generated, e.g. from silicon tetrachloride and ammonia, and the insecticide is then sprayed into it. Fahlberg-List A.-G. chem. Fab. German Patent No. 628,384.

Derris Toxicity

Derris is more toxic to mammals than rotenone. The toxicity is greater by inhalation than when the derris is administered orally. This suggests a possible health hazard to those engaged in milling, grinding and diluting derris unless suitable protective measures are observed. The probable site of action of derris and water extracts of derris is on the respiratory center, regardless of the method of administration. Anthony M. Ambrose and Harvey B. Haag. *Ind. Eng. Chem.* 28, 815-21 (1936).

Represents Blue Ribbon

W. S. Brown, 410 State street, Kansas City, has been appointed special distributor for "Blue Ribbon" polishes for the Greater Kansas City territory.

BREUER'S TORNADO ELECTRIC SPRAYERS
get you reorders because they are the most efficient and durable insecticide sprayers ever built. Supply your customers with the best.

The New Tornado Model 36
Automatic Time Switch—Volume Air Control
One Gallon Capacity, 1-3 H.P. G. E. Universal Motor

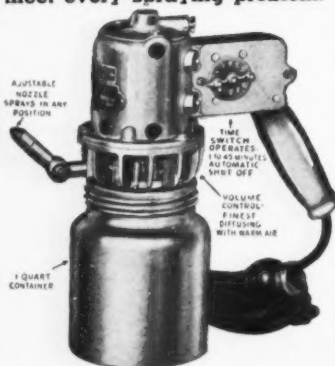
Here is the finest sprayer ever built. Similar to the now widely used Tornado Model 54 and retaining the automatic time switch, volume air control and adjustable nozzle features, the new Model 36 will spray a big volume of insecticide great distances in finest gas formation.

The patented principle of heating and compressing material does the trick. Just the sprayer you need for covering large distances and penetrating with the finest gas every possible source of insect existence.

Get the facts on this sprayer before buying!

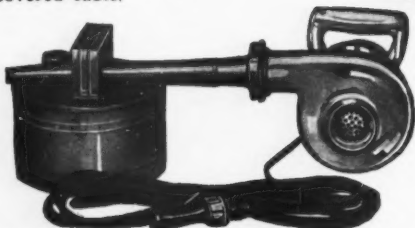
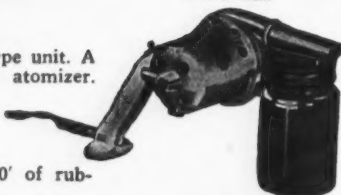


Also most complete line of electric sprayers to meet every spraying problem.



MODEL 54—
1 QT. CAPACITY
It features an automatic time switch set at any point from to 30 minutes—sprays desired amount without any attention whatever—automatically shuts off. Can also be used for hand spraying. Adjustable nozzle can be set for spraying in any position. Also exclusive volume control adjustment permits spraying one ounce every two to four minutes with either fine or heavy spray. **MODEL 53** same as Model 54 except does not have automatic time switch.

Model 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8' to 10'. 1/2 H.P. G.E. Universal Motor, 1 pint glass jar. 20' of rubber covered cable.



Model 6 Fan Type unit. Will break insecticide into a very fine mist. Sprays 18' to 20'. 1/3 H.P. G.E. Universal Motor. Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for moth-proofing solutions. Write today for complete description and circulars.

BREUER ELECTRIC MFG. CO.
862 Blackhawk Street Chicago, Ill.
We do not sell insecticides. Our business is manufacturing sprayers.
Patented in U. S. A. and Foreign Countries

PYRETHRUM EXTRACT

odorless—stabilized

Two Concentrations

20 to 1 5 to 1

From direct imported flowers, we manufacture pyrethrum extracts of standard strength in deodorized petroleum base,—and stabilized against deterioration. These extracts are sold at prices competitive with ordinary extracts.

Other HAMMOND Products

Pyrethrum Flowers—Granulated ready for percolation.
Rotenone Extracts—Standardized and stabilized against deterioration.

Rotenone-Pyrethrum Extracts—Various concentrates in combinations as required.

Ask us for further information.

HAMMOND

Paint & Chemical Co.

BEACON

NEW YORK

New—

MIMOSA S

for toilet soaps

A delightful refreshing perfume. We solicit your inquiries.



COMPAGNIE PARENTO, Inc.

CROTON-ON-HUDSON, N. Y.

| | | |
|---------------|---------------|---------|
| NEW YORK CITY | DETROIT | CHICAGO |
| LOS ANGELES | SAN FRANCISCO | |
| SEATTLE | PORTLAND, ORE | TORONTO |

Pyrethrum exports from Japan increased about 36 per cent in 1935. The total was 16,897,493 pounds, of which 15,609,183 pounds were shipped to the United States.

Thos. F. Meehan Dead

Thomas F. Meehan, head of the firm of James Good, Inc., Philadelphia, chemical manufacturers, was found dead from a bullet wound at his home in Lower Gwynedd Township, Pa., July 3.

McCormick Elects Broderick

W. F. Broderick was elected a member of the board of directors of McCormick & Co., Baltimore, at a recent meeting presided over by C. P. McCormick, president. Awards for meritorious work were made to W. W. Durham, C. E. Leber, R. E. Fain, D. S. Green and W. F. Broderick.

Penick Jr. in Europe

S. B. Penick, Jr., vice-president of S. B. Penick & Co., New York, sailed recently for a seven-weeks' trip to Europe in the course of which he expected to visit England, France, Germany and the Balkans. He planned to return to New York during the latter part of August.

Harold P. Streff Dies

Harold P. Streff, a salesman for the O'Cedar Corp., died of a heart attack in a hotel room in Watseka, Ill., last month. The funeral was held from his home at 6428 N. Seeley Ave., Chicago.

Will Handle "Kilzum"

Oklahoma Paper Co., Oklahoma City, has been appointed exclusive distributor in western Oklahoma for "Kilzum" insecticide, a product of Pennsylvania Refining Co., Butler, Pa.

Bell Exterminating Moves

Bell Exterminating Co., New York, has just moved to new and larger quarters at 200 Hudson St. The telephone number at the new address is Walker 5-4160.

Treasury Specifies 100% Kill

U. S. Treasury Department from its Des Moines, Iowa, office has issued a call for bids for liquid insecticide "guaranteed to knock down 100 per cent in 10 minutes and kill 100 per cent in 24 hours, to be without odor and non-toxic to food and human beings or animals; the fluid to contain no free hydrocarbon distillate." This information along with comments on government purchasing of insecticides has been sent to us by J. W. Perkins, manager of the Peerless Chemical Co., Des Moines. He states:

"We have been very much interested in the discussion of household fly spray specifications that has been running in SOAP. We have been tempted to write you before in regard to this, but hesitated to do so as we were afraid it might cause trouble for the parties involved. However, we cannot resist the temptation any longer.

"Early last spring we received a bid from one of the departments of the Government which we thought was impossible to comply with. However, we were interested enough in this bid to follow it through, and we found that one of our good customers, a retail hardware dealer, was awarded the bid, and we asked them what they delivered. We found out that they had cleaned up their old stock of insecticide. In other words, they took a gallon of this, a few bottles of another, and cleaned up all old stock, pouring it into a drum and delivering it on this Government specification. In other words, they had no idea at all what they were delivering, only that some manufacturer had labeled it insecticide. This department of the Government used this mixture and was apparently very happy.

"We are in receipt of another bid, this morning, which we are copying for your information. Apparently the Government is calling your bluff in the May issue of SOAP, that is, requesting a 100 per cent kill.

"U. S. Treasury Procurement

Office, 300 Royal Union Life Bldg., Des Moines, Iowa. Household fly spray, non-staining, to be used in kitchen.

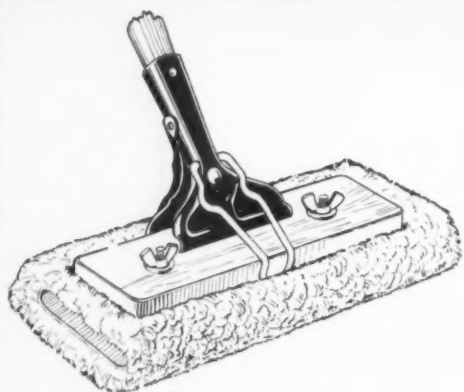
"Must be guaranteed to kill bed bugs and relative vermin when sprayed directly on material in which they are found. Guaranteed to knock down 100 per cent in 10 minutes and kill 100 per cent in 24 hours, to be without odor and non-toxic to food and human beings or animals; the fluid to contain no free hydrocarbon distillate.

"Bidders will state whether they are manufacturers of or regular dealers in the articles. Bidders who are not manufacturers will give name of the manufacturer from whom the articles are to be obtained, including catalogue references. Subject to inspection on delivery."

Following is a copy of another bid received July 11. U. S. Treasury Procurement Office, 300 Royal Union Life Bldg., Des Moines, Iowa. "Antiseptic fluid (Approx. 53 gal.). Must be guaranteed to kill bed bugs and relative vermin when sprayed directly on material in which they are found. Guaranteed to knock down 100 per cent in 10 minutes and kill 100 per cent in 24 hours, to be without odor and nontoxic to food and human beings or animals. The fluid to contain no hydrocarbon distillate.

"1-gal. pressure sprayer. Designed to throw a spray of vapor into the air 10-ft. with a spread of 2-ft. at a distance of 8-ft. from the nozzle, to create a mist that will remain suspended in the air until volatilized. Tank to be constructed of galvanized metal of first class design and finished nozzle for spraying material attached to sprayer.

"To be picked up by Camp Airport truck at Des Moines, Iowa. Bidders will state whether they are manufacturers of or regular dealers in the articles. Bidders who are not manufacturers will give name of the manufacturer from whom the articles are to be obtained, including catalogue references."



The HOLZ-EM SOLVES the PROBLEM

of convenient and proper application of floor waxes, seals and varnishes. You can be sure that your products are being used correctly by selling or recommending the HOLZ-EM WAX APPLICATOR and SPREADER to do the job. Designed by experts, made of the best materials, the HOLZ-EM will help build your list of satisfied customers just as it has done for others who are already familiar with the product.

We manufacture a complete line of applicators and mops. For prices and sample write

AMERICAN STANDARD MFG. CO.

2509-13 Lime St

Chicago, Ill.

What Non-Saponifiable Content in OLIVE OIL FOOTS?

●

YOU don't need to go thumbing through chemical dictionaries. The answer is in your BLUE BOOK. Complete tables give: Approximate Constants of Common Soap Oils; Acidic Content of Common Soap Oils; Percentage of Alkali Necessary to Saponify Common Soap Oils; Comparative Values of Caustic Soda Solutions.

●

Keep your BLUE BOOK in use!



DISINFECTANTS

COAL TAR DISINFECTANTS—Coefficients
2 to 20 plus F.D.A. Method

PINE OIL DISINFECTANTS

CRESOL AND CRESYLIC ACID DISINFECTANTS

PINE OIL DEODORANTS

CRYSTAL AND BLOCK DEODORANTS

LIQUID INSECTICIDES

**THE WHITE TAR COMPANY
OF NEW JERSEY, INC.**

PHONE KEARNY 2-3600
BELLEVILLE PIKE, KEARNY, N. J.



MODERN COSMETICS

Four hundred pages of practical, usable information for the manufacturer of cosmetics. Complete and authoritative, the result of more than a year's work carefully compiling and checking information. This is the first practical manual for the manufacturer, covering every phase of cosmetic manufacturing. A valuable reference book, yet it is written so clearly and with a minimum use of technical terms that it will be found particularly valuable to the manufacturer with limited technical training.

Price - Six Dollars - Order from

MAC NAIR-DORLAND COMPANY, Inc.

254 WEST 31st STREET

NEW YORK CITY

Organize New Wax Co.

The newly organized Buckingham Wax Corp., Van Dam St. and Borden Ave., L. I. City, N. Y., of which Irving Wexler is president and general manager, went into production July 28 on a complete line of waxes, polishes and floor finishes for the sanitary supply trade. Mr. Wexler has been identified with the wax business since boyhood, having obtained his early experience in Vienna. Since 1927 he has been a member of Windsor Wax Co., New York, joining the firm originally as a partner in charge of factory and sales operations. Over the past year and a half his activities have been largely centered on sales and advertising. He is well known in the wax field, having served on the NRA group for the wax industry at the time that body was functioning.

The plant and general offices of Buckingham Wax Corp. are located in a modern three-story brick building about a half-mile from Queensboro Plaza in Long Island City. The whole building is occu-



Irving Wexler

pied, with frontage on three streets. The plant is laid out so that raw materials may be taken immediately to the respective floors in the trucks in which they arrive, and much of the progress through the plant operations is by gravity flow. It is a thoroughly modern plant in every respect, completely re-equipped. It is stated to be the largest plant of its kind in the east. Plant operations will be subject to close chemical control by an experienced staff of chemists.

H. W. Moburg Heads Rex

H. W. Moburg has just been elected president and general manager of Rex Research Corp., Toledo,



H. W. Moburg

filling the vacancy created by the recent death of his uncle, Frank O. Moburg, founder of the company. The new president has been with the company for the past twelve years and has served recently as vice-president and assistant manager. R. E. Zachman has been named 1st vice-president and Mrs. F. O. Moburg 2nd vice-president. T. P. Krenz continues as secretary-treasurer. E. H. Rude, formerly assistant sales manager, becomes sales manager, and his old post is taken by W. J. Paxton.

N. Y. Exterminators Strike

The exterminating service of New York City was affected last month in a strike called July 20 by Local 155 of the Building Service Employees International Union. The city experienced a certain amount of interference with the usual exterminating services, but most firms advised they were continuing operations as usual. Demands of the workers included minimum pay of \$35 per week for a 40-hr. week and a minimum increase of \$2 per week for all now receiving a wage in excess of the suggested basic rate of pay.

An agreement was reported signed between the union and the Professional Exterminators Association, providing for a closed shop and a 40-hour week. The con-

tract called for a minimum wage of \$27.50 a week, with an increase of \$2 a week for all men earning less than \$30 and an increase of \$1 for men earning more than \$30.

A committee consisting of William O. Buettner, Arthur W. O'Connor and M. M. Horowitz, which states that it represents the employers of over 70 per cent of labor in the industry is negotiating with the union on terms and conditions of employment, but were firmly opposed to any agreement involving the principle of the closed shop. They were prepared to establish a \$25 minimum wage scale with a 40-hour week. It is stated that those who signed with the union represent only 20 employees in all with 300 still unsigned.

Fuld New Committee Head

Melvin Fuld of Fuld Bros., Inc., Baltimore, has just been named chairman of the disinfectant general committee of the National Association of Insecticide and Disinfectant Manufacturers. His appointment was

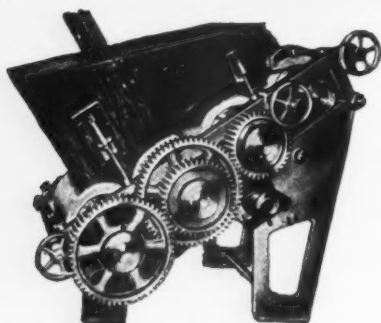


Melvin Fuld

announced by W. B. Eddy, Rochester Germicide Co., president of the association. He succeeds H. M. Clark, Hess & Clark, resigned.

Test Insecticide Ready

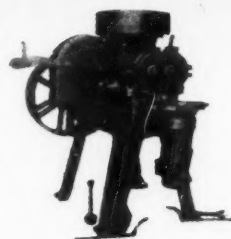
The standard control insecticide of the fly spray type authorized by the National Association of Insecticide & Disinfectant Manufacturers at the Chicago meeting is now ready for distribution by the office of the secretary, 122 E. 42nd St., N. Y.



The Rutschman Remill and the Rutschman Twin Screw Plodder make a combination difficult to improve on. The mill has hard Quincy Granite rolls, the best material yet discovered to grind the color and perfume into toilet soap. The plodder is equipped with end cut-off device and electric removable heating unit with safety red light. No single screw plodder feeds as easily as the Rutschman twin screw.

Made in various capacities, electrically equipped with Morse silent chain, or pulley drive.

*Makers of fine soap machinery
for nearly half a century*



HUBER MACHINE COMPANY

265 - 46th Street

Brooklyn, N. Y.



We manufacture a complete line of high quality waxes for the jobbing trade, including no-rubbing liquid wax, regular type liquid wax, powdered wax, paste wax and also furniture polish. These products can be supplied in bulk, packaged under the Windsor label or with your own label which we supply.

WINDSOR WAX COMPANY

53 PARK PL. New York, N.Y.

factory

611 Newark St. Hoboken, N.J.

Manufacturers of
WAX PRODUCTS EXCLUSIVELY

*Will you GAMBLE a
sample of your product
in an effort to improve it?*



The GAULIN two stage HOMOGENIZER

greatly improves floor waxes, polishes of all kinds, disinfectants and related chemical specialties because it enables you to make a complete, uniform and permanent emulsion. If you are interested in a better product send us a sample. We will Homogenize it and return a product in which we believe you will be interested.



MANTON-GAULIN MFG. CO.

19 Charlton St.

Everett, Mass.

SOAP DIES and STAMPS

For Foot and Power Presses

Manufacture Backed by 35 Years' Experience

ANTHONY J. FRIES

717 Sycamore Street

—for—
TOILET SOAPS
LAUNDRY SOAPS
BATH TABLETS
STAMPING

Cincinnati, O., U. S. A.

West Buys Murdirco, Inc.

West Disinfectant Co., L. I. City, N. Y., is reported to have just taken over Murdirco, Inc., 1040 S. Olive St., Los Angeles. The coast concern manufactures and sells "Murdirat," "Murdirbug" and "Murdirmoth." The line will be continued by the new owners.

Chas. Smith with McCormick

Charles L. Smith, who for the past four years has been the McCormick research fellow in pyrethrum and derris at Rutgers University, where he completed his requirements for a doctor's degree, has just joined the McCormick research staff. In his recent work Dr. Smith has given special attention to the use of anti-oxidants in connection with pyrethrum and derris products and will continue this study in the McCormick laboratories. He will also continue his efforts to more definitely correlate the Campbell and the Peet-Grady methods of testing the toxicity of insecticides. Dr. Smith is the author of a paper which will be released shortly, concerning the relative toxic efficiency of pyrethrum and rotenone powders of fine mesh compared with coarser grinds. His work developed the fact that the finer ground powders offer more killing particles per

pound. In this form intimate contact with the bodies of the insects is facilitated, thus affording a quicker and more certain kill. The fine powders have also, according to Dr. Smith, the further advantage, when used for agricultural and horticultural purposes, of penetrating more efficiently heavy vines under which insects seek protection.

Dr. Dreyfus in Europe

From Dr. William Dreyfus, technical director of the West Disinfecting Co., Long Island City, N. Y., word has been received that he is now in Switzerland for his annual visit, having traveled abroad on the "Staatendam" via Holland. His sympathy for those "enjoying the tropical heat" in the U. S. he extends to his friends in the trade.

Innis Speiden Waxes

In referring in our July issue to the new flake forms of carnauba and candelilla wax recently placed on the market by Innis Speiden & Co., New York, we did not make thoroughly clear that the waxes have different melting points. The new type candelilla which Innis Speiden offers has a melting point of $159\frac{1}{2}^{\circ}$ F., while the flake carnauba has a melting point of $183\frac{1}{2}^{\circ}$ F.



Wilson & Bennett Banquet

Executives, department heads and key employees of Wilson & Bennett Mfg. Co., Chicago container manufacturers, joined in a company banquet at the Chicago Athletic Association Clubrooms recently. Over 150 men were present at the banquet

which was followed by a program of entertainment which included some well-known radio stars and a Wilson and Bennett song trio. During the evening S. A. Bennett, head of the company, presented engraved gold watches to Fred Kiser and Frank Eisa in appreciation of 25 years of service.

Rose Exterminator Moves

The Chicago office of Rose Exterminator Co. has just occupied new and larger quarters at 6 East Lake Street on the fifth floor of the Tuttle Building.

T. C. Jesdale Has Son

Mr. and Mrs. Thornton C. Jesdale announce the birth of a son, William Todd Jesdale. The proud father is with the Chicago office of Monsanto Chemical Co.

T. M. Albert Has Daughter

Mr. and Mrs. T. M. Albert announce the birth of a daughter, Karen Frances Albert. Mr. Albert is the active head of Richard W. Leonard Co., Chicago.

About Moths

(Continued from Page 113)

the *Flit* now on the market is identical with that tested in 1932.

Vapoo (Vapoo Products Company). 5 oz., \$1.00. The manufacturer claims that this product "cleans, brightens, disinfects and moth-proofs in one operation" but analysis showed it to be a soap product consisting mainly of inexpensive detergents such as trisodium phosphate, borax, and soda, and containing only an insignificant amount of paradichlorobenzene (2.9%), the only ingredient which could have any moth-proofing effect.

Larvex (The Larvex Corporation). \$1.19 a pint, with atomizer. Contains as active ingredient .52% sodium aluminum silicofluoride. Cannot be used on furs, and stains linings of other garments. Not effective when used as a spray as directed.

Moth Wool (Baltus Rolfs, Inc.). Box of 7 pads, 95c., or 15c. a pad. Advertised as "a virgin wool pad saturated with an abundance of the particular kind of food the new-born moth likes." The promoters advance the theory that the new-born moths feed on and die of the "food greases" in these pads, which are impregnated with arsenic. No explanation is offered as to why the moth should feed on such "food greases" rather than on grease spots on fur or wool clothing.

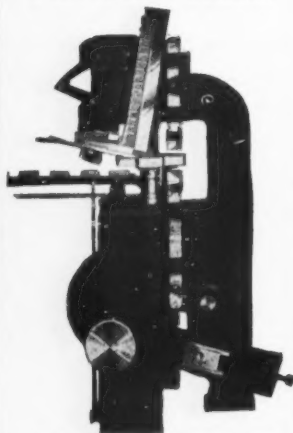
Special Offerings of

New CRUTCHERS



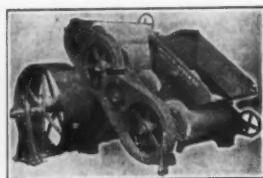
This Newman brand new, all steel, steam jacketed soap crutcher will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap.

Automatic JONES PRESS



Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our shops.

H-A SOAP MILL



This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls. Priced for quick sale.

New and Rebuilt SOAP MACHINERY by NEWMAN

We carry a complete line of equipment for the soap and sanitary products industry. All used equipment is rebuilt in our own shops and is guaranteed to be in first class condition. All new equipment that we manufacture such as crutchers, frames and cutting tables is of the finest material and workmanship. You can buy with confidence from Newman.

USED SPECIALS

For the Soap, Chemical, Cosmetic and Allied Trades

- H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
- Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
- Ralston Automatic Soap Presses.
- Scouring Soap Presses.
- Empire State, Dopp & Crosby Foot Presses.
- 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
- H-A 4 and 5 roll Steel Mills.
- H-A Automatic and Hand-Power slabbers.
- Proctor & Schwartz Bar Soap Dryers.
- Blanchard No. 10-A and No. 14 Soap Powder Mills.
- J. H. Day Jaw Soap Crusher.
- H-A 6, 8 and 10 inch Single Screw Plodders.
- Allbright-Nell 10 inch Plodders.
- Filling and Weighing Machine for Flakes, Powders, etc.
- Steel Soap frames, all sizes.
- Steam Jacketed Soap Remelters.
- Automatic Soap Wrapping Machines.
- Glycerin Evaporators, Pumps.
- Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
- Perrin 18 inch Filter Press with Jacketed Plates.
- Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
- Day Grinding and Sifting Machinery.
- Schultz-O'Neill Mills.
- Day Pony Mixers.
- Gardiner Sifter and Mixer.
- Proctor & Schwartz large roll Soap Chip Dryers complete.
- Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
- Day Talcum Powder Mixers.
- All types and sizes—Tanks and Kettles.
- Ralston and H-A, Automatic Cutting Tables.
- Soap Dies for Foot and Automatic Presses.
- Broughton Soap Powder Mixers.
- Williams Crutcher and Pulverizer.
- National Filling and Weighing Machines.

Plant of the
Holman Soap Co., Chicago, is
offered for sale.
Completely equipped modern
factory.

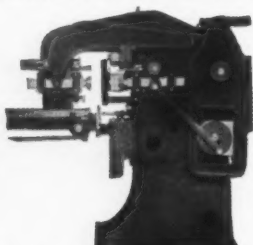
Send us a list of your surplus
equipment—we buy separate
units or complete plants.

Newman Tallow & Soap Machinery Co.

1051 W. 35th St., Chicago, Illinois

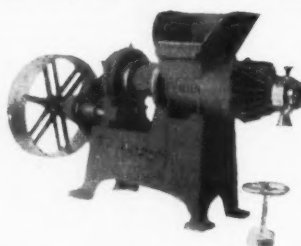
Our forty years soap experience can help solve your problems.

JONES AUTOMATIC



4 Jones Automatic combination laundry and toilet soap presses. All complete and in perfect condition.

SINGLE SCREW SOAP PLODDER



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.

CLASSIFIED ADVERTISING

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, \$2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, \$1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Soapmaker and Chemist—with 30 years' experience, desires new position. All kinds of soaps; household, toilet, oil soap, liquid soap, shaving soap, soap powder; Twitchelling,—glycerin specialties; desires responsible employment. Address Box No. 784, care *Soap*.

Graduate Chemist with nine years' experience as analyst, cost engineer and divisional office manager for large nationally known soap manufacturers wishes to make connection with smaller growing manufacturing concern desirous of installing cost system and efficient office methods. With present employers for past eight years. Age 30, single. Address Box No. 780, care *Soap*.

Soapmaker and Chemist—with long experience making all kinds of soaps, seeks permanent connection. Address Box No. 787, care *Soap*.

Soapmaker and Chemist—whose past record and experience qualify him for meeting highest technical requirements, desires steady employment with progressive concern. Address Box No. 786, care *Soap*.

Capable Sanitary Chemical Specialist—15 years' experience manufacturing disinfectants, insecticides, soaps, polishes, deodorants, etc., desires position as superintendent or chemist. Temporary work will be considered. Single, age 42, college graduate. Available at once. Address Box No. 789, care *Soap*.

Chemist, PhD.—20 years' experience as research and chief chemist with leading firms in soaps, cosmetics and perfumes, desires position with progressive concern. Address Box No. 791, care *Soap*.

Oil Plant Superintendent—Man with many years experience as superintendent of plant refining, hydrogenating edible fats and oils, desires to make new connection where this experience will be valuable. Address Box No. 776, care *Soap*.

REBUILT SOAP MACHINERY SPECIALS

Machinery from former plants of National Soap Powder Co., A. W. Barnes Soap Co., and Pennsylvania Soap Co.

- 1—Allbright-Nell 4'x8' Cooling Roll, with top feeder roll, scraping knife.
- 4—5000 lb., 1500 lb., 1000 lb., Jacketed Vertical Crutchers.
- 2—1500 lb. Horizontal Crutchers.
- 1—Steel Soap Kettle, 5' dia. x 10' high.
- 1—Houchin 400 lb. Amalgamator.
- 4—Houchin Soap Plodders, 8" and 10".
- 2—Ruchmann 4-roll inclined Granite Mills, 18"x24", motor driven.
- 1—Broughton 1200 lb. Soap Powder Mixer.
- 2—Tabor Soap Pumps.
- 4—Houchin 4 and 6-knife Chippers, 20".
- 1—Houchin Soap Foot Press.
- 1—Houchin 1500 lb. Power Slabber.
- 1—Houchin Hand Slabber.
- 2—Houchin 2-way Soap Cutting Tables.
- 1—Jones "A" Automatic Soap Press.

1—Proctor and Schwartz Soap Chip Dryer, steel frame, 7-section, 1—cooling section, complete with 5-roll P. & S. Mill. Located on Pacific Coast.

MISCELLANEOUS—Soap Frames, Kettles, Mixers, Pony Mixers, Powder Fillers, Labelers, Wrappers, Tanks, Pumps, Boilers, etc.

Send for Latest Bulletin.

CONSOLIDATED PRODUCTS CO., INC.
15-21 Park Row New York, N. Y.

BARclay 7-0600

We buy your idle Machinery—Send us a list.

Complete Soap Plant

of large, old, established eastern manufacturer of national reputation. Includes modern plant and all late type equipment. Produced bar and chip laundry soaps, toilet soap and soap powders. Write for full details.

REBUILT SPECIAL OFFERINGS

- 1—Chilling Roll Unit 4' x 7'.
- 1—Jones Automatic Pin Die Press.
- 2—Houchin-Aiken Empire State Foot Presses.
- 1—2 way Soap Cutting Table.
- 10—100 Lb. Soap Frames.
- 20—1200 Lb. Soap Frames.
- 1—10A Blanchard Mill.
- 1—65 Gal. Dopp Jacketed Kettle.
- 1—Soap Chipper.
- 4—Filter Presses—10" to 24" Square.
- 2—Jacketed Vertical Crutchers.
- 2—Vertical Jacketed 3000 Lb. Kettles.
- 6—Glass Lined Kettles, 50 to 3000 Gals.
- 1—Soap Slabber.
- 1—Proctor 4 Fan Soap Chip Dryer.
- 3—Plodders; 6", 10" and 12".
- 4—3 and 4 Roll Stone Mills.

Send for Bulletin No. 101 giving full listings

We Buy Your Surplus Equipment for Cash,
From Single Items to Complete Plants.

STEIN EQUIPMENT CORP.

426 BROOME STREET
Phone: CAnal 6-8147

NEW YORK, N. Y.
Cable Address "MACHINEQUIP"

PALMER DISPENSERS

The new "TIPOWDER" dispenser (at right) is positive in operation, no springs or mechanical parts to get out of order. Tilting dispenser delivers predetermined quantity of soap—wasteful continuous flow absolutely impossible. Tamper-proof, easily cleaned. Metal parts chrome plated—black china, opal or clear crystal glass bowl.



Palmer SUPER-SERVER (left)—priced low, has no equal in value. Metal parts of stainless chrome alloy. One piece bracket in satin chrome-like finish. Valve parts easily removed for cleaning or replacement. Crystal glass decagon bowl, black enameled cap. Large 1-inch opening makes filling easy. Lowest priced push-in dispenser—yet neat, compact, durable.

Palmer
PRODUCTS INC.
WAUKESHA, WIS.
Adjacent to Milwaukee

Write for new catalog on complete Palmer line of soap dispensers; janitor and sanitary supplies, maintenance materials and equipment.

SPECIALTY SOAP PRODUCTS

Liquid Soap Base
Potash Oil Soap
Liquid Soap
U. S. P. Green Soap
U. S. P. Cresol Compound
Coal Tar Disinfectants
Pine Oil Disinfectants
Insecticides
Liquid Floor Wax

Auto Soaps
Shampoo
Pine Oil Soap
Shampoo Base

We manufacture for the trade only
HARLEY SOAP CO.,
2852 E. Pacific St.,
Philadelphia, Pa.

Ask for samples
of above specialty
bulk products.

What is the Best Concentration for a LIQUID SOAP?



You will find the answer to this question, together with a full discussion of the whole subject of liquid soap concentration, on page 161 of the 1936 SOAP BLUE BOOK. The BLUE BOOK contains a vast amount of valuable reference material. Keep your copy handy and use it regularly. The answer is in your



SOAP BLUE BOOK

Free to "Soap" Subscribers

F. & S.

Quality Colors
for

TOILET SOAPS
LIQUID SOAPS

TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.

205 FULTON STREET
NEW YORK, N. Y.

Import—Manufacture—Export

Soap Sales—Man with many years' experience in sale of soaps in N. Y. Metropolitan area desires to represent Eastern manufacturers of toilet, laundry and flake soaps. Commission basis. Well-known among jobbers, chain buyers, etc. Address Box 756, care *Soap*.

Floor Waxes—Chemist, expert in manufacture of floor waxes,—also have much research data,—open for part or full-time work with manufacturer. Can handle all emulsion and emulsification problems. Address Box 755, care *Soap*.

Positions Open

Manufacturer's agent wanted by Pyrethrum Manufacturer. Exclusive territories now open for those having a selling organization. Distributors will be supported by trade paper and direct mail advertising—also complete cooperation of our detail men and laboratory staff. Prompt reply requested stating qualifications and territory covered in order that personal interviews may be arranged. Address Box No. 792, care *Soap*.

Soapmaker Wanted—Man experienced in the manufacture of liquid and oil soaps, scrub soaps, castile soaps, shampoos, shaving cream and also in various sanitary products such as fly spray, etc. Give full details and experience, salary desired in first letter. Address Box No. 794, care *Soap*.

A Prominent Manufacturer of liquid soaps, disinfectants, deodorizing cakes, etc., has an opening for a dependable sales representative. Address Box No. 788, care *Soap*.

Chemists Wanted—Chemist with formula and manufacturing experience on Wallpaper Cleaner. Write only. Illinois Chemical Laboratories, 75 E. Wacker Drive, Chicago, Ill.

Wanted—Salesman for waxes to institutions, janitor supply houses, etc. Liberal commissions on high grade products. Address Box No. 785, care *Soap*.

Miscellaneous

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Valencia Pumice—Something new in American Pumice Stone; Lump and Ground. It's clean, light color will please you. Barnsdall Tripoli Corp., Seneca, Mo.

STRAIGHT SHOOTING

Let us place our experience and knowledge of world markets at your disposal.



**CHEMICALS
INSECTICIDES
OILS—WAXES**

H. H. ROSENTHAL CO., INC.
25 EAST 26th ST. NEW YORK, N. Y.

Cable Address: RODRUG, N. Y.

Olive Oil

Olive Oil Foots

Deliveries spot and future in barrels, tank cars, drums or tank wagons.

ESSENTIAL OILS

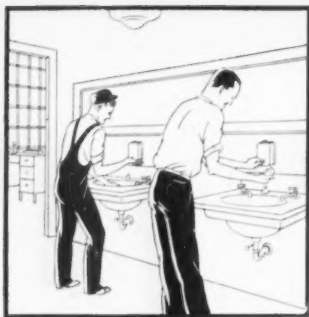
Lemon—Bergamot—Orange

LEGHORN TRADING CO.
INC.

155 East 44th St., New York

Phone: V. A. N. d. e. r. b. i. l. t. 3—6361-2-3

ITALY—SPAIN—GREECE—TURKEY—AFRICA



SOP-O-ZON DISPENSERS

35 MODELS TO CHOOSE FROM

Write for Catalogue

*Serving the Soap Manufacturer and
Jobber only—We do not sell to the
consumer.*

**BOBRICK MANUFACTURING
CORPORATION**

111-117 GAREY ST.,
LOS ANGELES

215 FOURTH AVE.,
NEW YORK CITY

G. H. WOOD & CO., LTD., Canadian Distributor, Toronto, Montreal.

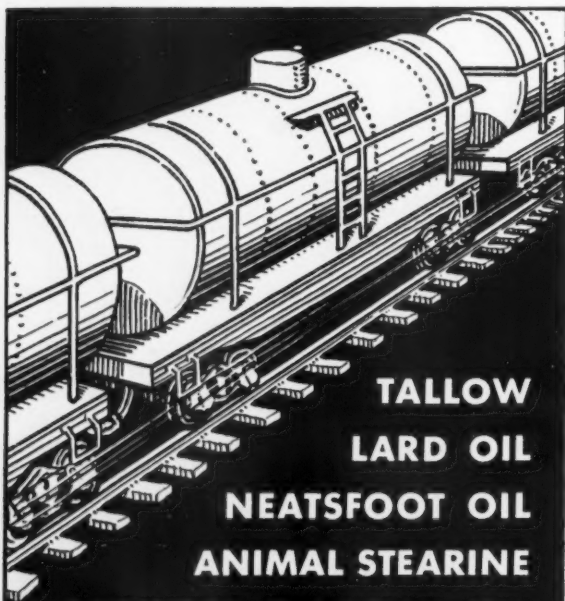
UNEXCELLED PRODUCTS FOR JOBBER AND BULK BUYERS

Most buyers that are familiar with KLEENWELL PRODUCTS depend on us to supply their complete requirements for all kinds of sanitary products. This unusual acceptance can mean just one thing—the KLEENWELL trademark guarantees quality of the highest order at the right price.

All our products are guaranteed as represented and are available under your own label if preferred. Write for descriptive price on any of the following items:

| | |
|-----------------------------------|------------------------------|
| Floor Maintenance | Detergent Powders |
| Materials | Dish Washing Compound |
| Liquid Gloss Wax (Self Polishing) | Disinfectants |
| Powdered Dance Floor Wax | Deodorant Blocks—Crystals |
| Gymnasium Floor Seal | Pine Oil Disinfectant |
| Pynex Liquid Floor Cleaner | Insecticides |
| Soaps | Red Sweeping Compound |
| Liquid Soaps | Bowl-Kleen-Liquid and Powder |
| Hard Vegetable Oil Soap in | Pipe Solvent |
| Self-Mixing Drum | Furniture and Metal Polish |

**CHICAGO SANITARY
PRODUCTS CO.**
2526 CONGRESS ST. CHICAGO



**TALLOW
LARD OIL
NEATSFOOT OIL
ANIMAL STEARINE
ACIDLESS TALLOW OIL**

Prompt Delivery—Drums, Barrels, or Tank Cars.

INDEPENDENT MANUFACTURING CO.
Bridesburg P. O. Philadelphia, Pa.

INDIANS and HUDSON BAY TRADERS

—washed their blankets with “soap-clay”—sometimes called “mineral jelly.” This mineral is now known as “bentonite” and is produced by us in purified form, as

VOLCLAY

Its use in detergents and cleaners is growing larger every year.

*It emulsifies oil, greasy soil and bitumens
Adsorbs and suspends soil particles
Adsorbs carbonaceous soil particularly*

also widely used in insecticides for emulsifying, suspending, spreading and sticking.

Write for Bulletins No. 209 and No. 210

AMERICAN COLLOID COMPANY

363 West Superior Street
Chicago—Illinois

For Sale—Formulas and Trademark Names—General Chemical Household Cleaning Powder Compound, 1-pound package and a Dairy Cleaning Powder in bulk. Address Box No. 781, care *Soap*.

Soap Factory and business for sale, Philadelphia suburb—3-story brick, 3750 square feet and steel warehouse 4800 square feet, elevator, siding available; owner retiring account of health. Refer A. J. Hamlin, 4707 Stenton Ave., Philadelphia.

For Sale—Small sanitary supply business, office and stock room equipment; very low rental, located New York. Very reasonable—good opportunity. Address Box No. 790, care *Soap*.

Equipment Wanted—We are interested in the importation of rebuilt and new soap machinery into India for use by several soap manufacturers. We are also interested in supplies of raw materials including perfuming products for the manufacture of toilet soap. American manufacturers and exporters are invited to communicate with Rustomji Nowroji Bapasola, 62, Forbes St., Fort, Bombay, India, Est. 1909.

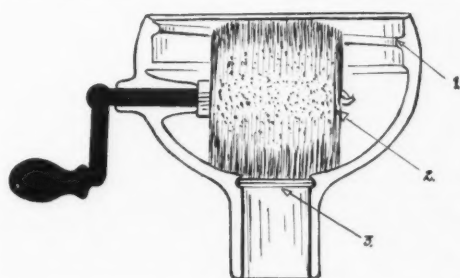
Glycerine Plant—New York concern desires to buy complete small used glycerine plant. Must be in first class condition. Principals only. Address Box No. 793, care *Soap*.

Large manufacturer of chemical specialties, recognized achievements in this field, located in East, modern plant and laboratory, wishes connection with jobbers, selling agencies or large consumers who desire to purchase all types of floor waxes, furniture polishes, auto polishes and other specialties on equitable cost-plus basis. Box No. 779, care *Soap*.

For Sale—Respirators, Goggles, Thermometers and Hydrometers for every purpose. Write for prices. General Scientific Wks., 2620 N. 23rd St., Philadelphia, Pa.

Distributors—We are manufacturers of metal, silver, stove, furniture polishes and no-rub wax. Also complete line of Bar Room cleaning materials. These can be supplied in bulk or packaged under our or your own label which we supply. The Slick-Shine Co., Inc., Newark, N. J.

Volcanic Ash—Mined and refined by Mid-Co Products Co., 238 Railway Exchange Building, Kansas City, Mo., operators of plants in Oklahoma and Kansas. Samples and prices on carlots on request.



1. Screw thread—varied containers
2. Rotary brush—agitates and divides
3. Adjustable valve.

POWDERED SOAP DISPENSER

Here is the simplest powdered soap dispenser ever devised—but at the same time it is sturdy, foolproof and attractive. It is unbreakable and rustproof, is easy to fill, requiring no special tools, and can be adjusted easily to discharge various quantities of soap. Capacity can be varied to suit requirements. Comes in satin finish or mirror high polish. Samples in satin finish shipped postpaid direct from manufacturer for 85 cents each. Mirror high polish for 95 cents each. Write for descriptive circular and quotations in quantity lots.



PRESTO MFG. CO.

4044 20th AVE. S.

MINNEAPOLIS

MECHLING'S SILICATE OF SODA

ESTABLISHED 1869

MECHLING BROS. CHEMICAL COMPANY

PHILADELPHIA • CAMDEN, N.J. BOSTON, MASS.

Where to buy

RAW MATERIALS AND EQUIPMENT

for the Manufacture of Soaps and Sanitary Products

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page, 134, for page numbers, "Say you saw it in SOAP."

ALKALIES

Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
H. H. Rosenthal Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer, Inc.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Firmenich & Co.
Charles Fischbeck & Co.
Fritzsch Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Merck & Co.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Riviera Products Co.
Schimmel & Co.
George Silver Import Co.
Solvay Sales Corp.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

Baird & McGuire, Inc.
Buckingham Wax Corp.
Chemical Supply Co.
Chicago Sanitary Products Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Eagle Soap Corp.
Federal Varnish Co.
Flori Mothproofing Method
Franklin Research Co.
Fuld Bros.
E. A. Gerlach Co.
Harley Soap Co.
Koppers Products Co.
Kranich Soap Co.
Palmer Products
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
Uncle Sam Chemical Co.
T. F. Washburn Co.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.

Eastern Industries
General Chemical Co.
Grasselli Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Co.
Innis, Speiden & Co.
Mechling Bros. Chemical Co.
Merck & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
H. H. Rosenthal Co.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)
American-British Chemical Supplies
Baird & McGuire, Inc.
Barrett Co.
T. G. Cooper & Co.
Innis, Speiden & Co.
Koppers Products Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.

CONTAINERS and CLOSURES

Anchor Cap & Closure Corp. (Closures & Bottles)
Capstan Glass Co. (Bottles)
Continental Can Co. (Tin Cans)
Maryland Glass Corp. (Bottles)
National Can Co. (Cans)
Salem Glass Works (Bottles)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Palmer Products, Inc.

ESSENTIAL OILS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Co.
Firmenich & Co.
Charles Fischbeck & Co.
Fritzsch Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Riviera Products Co.
Schimmel & Co.
George Silver Import Co.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

(Continued on page 132)

PROFESSIONAL DIRECTORY

PEASE LABORATORIES, Inc.

Chemists, Bacteriologists, Sanitarians

39 West 38th Street
New York

Food, Drug and Cosmetic Problems—Compliance with
Official Requirements—Meeting New and Anticipated
Competitions with Improved and New Products

H. A. SEIL, Ph.D.

E. B. PUTT, Ph.C., B.Sc.

SEIL, PUTT & RUSBY, INC.

Analytical and Consulting Chemists

Specialists in the Analysis of Pyrethrum Flowers, Derris Root,
Barbasco, or Cube Root—Their Concentrates
and Finished Preparations

ESSENTIAL OILS SOAP
16 East 34th Street, New York, N. Y.

STILLWELL AND GLADDING, Inc.

Analytical and Consulting Chemists

Members Association of
Consulting Chemists and Chemical Engineers

130 Cedar Street New York City

APPLIED RESEARCH LABORATORIES, Inc.

DAYTON, N. J.

Bacteriology, Pathology, Physiology

Deodorant Coefficients (Packchian Method)

Disinfectant and Insecticide Tests

Toxicity and Skin Irritation Tests

Bioassays and Other Animal Studies

KILLING

strength of Insecticides

by PEET GRADY METHOD

(Official I. & D. code method) and
PYRETHRINS in PYRETHRUM FLOWERS
(by Gnadinger's Method)

We raised and killed more than 1 million flies in the last 2 years

ILLINOIS CHEMICAL LABORATORIES, INC.
75 E. WACKER DRIVE CHICAGO, ILL.

JOHN H. WRIGHT

Technical Consultant

INSECTICIDES—DISINFECTANTS

SANITARY SPECIALTIES

*Research—New Products—Packaging—Formula
Labeling under Federal and State Laws*

122 East 42d St., New York Caledonia 5-6095

CONSULTING CHEMIST

PLANT DESIGN
INSTALLATION
ANALYSES

FORMULAS
PLANT OPERATION
NEW PRODUCTS DEVELOPED

SOAPS and COSMETICS

20 Years Experience

LELAND C. CATES

7418 Cottage Grove Ave. CHICAGO, ILL.

SOAPS — DETERGENTS

*Analyses Development
Consultation Formulas*

Hochstadter Laboratories

254 West 31st St.

New York City

Entomological Testing Laboratories, Inc.

We offer you a medium for purchasing insecticides
on an intelligent basis.

Entomological testing by the Peet-Grady method, and
chemical examination of insecticides are available.

114 E. 32nd St.

New York, N. Y.

FOSTER D. SNELL, INC.

Chemists—Engineers

Every form of Chemical Service

305 WASHINGTON STREET BROOKLYN, N. Y.

Skinner & Sherman, Inc.

246 Stuart Street, Boston, Mass.

Bacteriologists and Chemists

Disinfectants tested for germicidal value or phenol co
efficient by any of the recognized methods.

Research—Analyses—Tests

LLOYD A. HALL

Analytical and Consulting Chemist

Development, Improvement and Analysis of Soaps, Disin-
fectants, Polishes, Cosmetics, Drugs, Oils.

Bacteriological Tests for Germicidal Value and Efficiency.
Formulas—Research

1415 West 37th Street

Chicago, Ill.

RAW MATERIAL AND EQUIPMENT GUIDE

(Continued from page 130)

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MACHINERY

Ertel Engineering Corp. (Filters, Mixers, Bottle Fillers)
 Anthony J. Fries (Soap Dies)
 Houchin Machinery Co. (Soap Machinery)
 Huber Machine Co. (Soap Machinery)
 International Nickel Co. (Monel Metal)
 R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
 Manton-Gaulin Mfg. Co. (Homogenizer)
 Mixing Equipment Co. (Mixers)
 Package Machinery Co. (Packaging)
 Proctor & Schwartz (Dryers)
 C. G. Sargent's Sons Corp. (Dryers)
 Stokes & Smith Co. (Packing Machinery)
 Western Precipitation Co. (Multiclones)

MACHINERY, USED

Consolidated Products Co.
 Newman Tallow & Soap Machinery Co.
 Stein-Brill Co.
 Stein Equipment Corp.

MISCELLANEOUS

American Colloid Co. (Bentonite)
 American Standard Mfg. Co. (Wax Applicator)
 Anchor Cap & Closure Corp. (Metal Caps)
 T. G. Cooper & Co. (Waxes)
 Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)
 General Chemical Co. (Fluorides)
 General Naval Stores Co. (Pine Oil-Rosin)
 Hercules Powder Co. (Pine Oil and Rosin)
 Industrial Chemical Sales Co. (Decol. carbon, Chalk)
 Innis, Speiden & Co. (Fumigants and Waxes)
 Merck & Co. (Lanolin)
 Pylam Products Co. (Lathering Agent)
 Rohm & Haas Co. (Insecticide Base)
 Sennwald Drug Co. (Rat and Roach Paste)

OILS AND FATS

T. G. Cooper & Co.
 Eastern Industries
 Independent Mfg. Co.
 Industrial Chemical Sales Co.
 Leghorn Trading Co.
 Michel Export Co.
 Murray Oil Products Co.
 Newman Tallow & Soap Machinery Co.
 Orbis Products Corp. (Stearic Acid)
 Weoline Products Co.
 Welch, Holme & Clark Co.

PARADICHLORBENZENE

Dow Chemical Co.
 E. I. du Pont de Nemours & Co.
 Hooker Electrochemical Co.
 Merck & Co.
 Monsanto Chemical Co.
 Niagara Alkali Co.
 H. H. Rosenthal Co.
 Solvay Sales Corp.
 Jos. Turner & Co.

PERFUMING COMPOUNDS

Aromatic Products, Inc.
 Compagnie Parento
 Dodge & Olcott Co.
 P. R. Dreyer Inc.
 Felton Chemical Corp.
 Firmenich & Co.
 Charles Fischbeck & Co.
 Fritzsche Brothers, Inc.
 Givaudan-Delawanna, Inc.
 Magnus, Mabee & Reynard, Inc.
 Norda Essential Oil & Chemical Co.
 Orbis Products Corp.
 Riviera Products Co.
 Schimmel & Co.
 George Silver Import Co.
 Ungerer & Co.
 Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Atlantic Refining Co.
 O'Connor & Kremp
 Sherwood Petroleum Co.
 L. Sonneborn Sons.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products

Derris, Inc.
 Hammond Paint & Chemical Co.
 S. B. Penick & Co.
 R. J. Prentiss & Co.
 McCormick & Co.
 McLaughlin, Gormley, King Co.
 John Powell & Co.
 H. H. Rosenthal Co.
 Sherwood Petroleum Co.

SOAP DISPENSERS

Bobrick Mfg. Co.
 Clifton Chemical Co.
 Eagle Soap Corp.
 Fuld Bros.
 Palmer Products
 Presto Mfg. Co.

SODIUM SILICATE

General Chemical Co.
 Grasselli Chemical Co.
 Mechling Bros. Chemical Co.
 Philadelphia Quartz Co.
 Standard Silicate Co.

SPRAYERS

Breuer Electric Mfg. Co.
 Dobbins Mfg. Co.
 Fumeral Co.
 Getz Exterminators
 Hudson Mfg. Co.
 Lowell Sprayer Co.

TRI SODIUM PHOSPHATE

General Chemical Co.
 Grasselli Chemical Co.
 Monsanto Chemical Works
 H. H. Rosenthal Co.
 Warner Chemical Co.

WHITE COCONUT OIL AND PALM OIL FATTY ACIDS

ALSO COMPLETE
LINE OF VEGETABLE
AND ANIMAL OIL
FATTY ACIDS

**WECOLINE
PRODUCTS, Inc.**

15 EAST 26th ST. NEW YORK

Classified Advertising ~

Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of \$2 per issue (position wanted advertisements accepted at half rates). Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc., use space in the Classified Section of *Soap*. It will place you in touch with the entire soap and sanitary products industry.



MULTICLONE

Dust from waste gases and powders from many industrial processes are efficiently collected by Multiclones. Large capacity in small space. Scientifically calculated and designed to collect smaller particles than can be recovered by ordinary centrifugal systems. Built in units that can be multiplied for any desired capacity. Simple, compact, fireproof, Multiclones will handle hot or cold gases. Easily installed by ordinary labor.

DUST CONTROL SYSTEMS

Send for new
Illustrated
Bulletin

Specialists in
Dust and Fume
Control

WESTERN PRECIPITATION COMPANY

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